

Construction Travel Plan

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Executive Summary

The development proposals are for a world class Defence Technical College (DTC), together with an Aerospace Business Park (ABP) to be created on land at and adjacent to the MoD St Athan site (Figure 1). The DTC and aerospace development is a major opportunity to bring employment to the Vale of Glamorgan in key industrial sectors. The development will not only provide employment opportunities for local people within the Vale of Glamorgan, but also improve the infrastructure and leisure facilities for residents.

The new Technical College will be of international standing and will ensure UK military personnel continue to receive the very best training available. Technical training will be provided in a number of specialist skills including mechanical and aeronautical engineering, and communication/IT disciplines.

The additional development of the Aerospace Business Park will further build on South Wales' heritage in the aerospace industry and will both directly and indirectly create significant employment opportunities attracting further investment into the area.

Access to the DTC site and part of the ABP development is proposed to be via a new Northern Access Road (NAR) which will link the B4265 at Llantwit Major to Egwyls Brewis.

The likely impact of the proposed development on the local highways and the sustainable transportation infrastructure has been considered by a Transport Group consisting of representatives from the Welsh Assembly Government (WAG), Metrix, Defence Estates, Pell Frischmann, the Vale of Glamorgan Council (VoG) and Capita Symonds. The Scoping Report is based on those regular discussions.

Significant public transport proposals, linked to the key Travel Plan, are proposed. These proposals, combined with improved walking and cycling facilities aim to generate sustainable travel to and from the site. This is enhanced by the mixture of employment, residential and leisure uses proposed as part of the development, to reduce travel to and from the site.

This Travel Plan should be read in conjunction with the following reports:

- Aerospace Business Park – St. Athan; Travel Plan; May 2009; Capita Symonds
- Defence Technical College - St Athan; May 2009; Capita Symonds
- Transport Assessment; Defence Technical College & Aerospace Business Park – St. Athan; May 2009; Capita Symonds

1. Introduction

- 1.1 Increased car usage has resulted in high volumes of traffic in peak hours, which gives rise to localised congestion in town and city centres, on radial routes and around employment centres. In turn, this congestion contributes to poor air quality and threats to personal health. The problem is exacerbated because most cars only contain one person, when a car generally has capacity for at least four.
- 1.2 Traffic is the fastest growing source of carbon dioxide, which contributes to global warming and other pollutants that have a detrimental effect on our health. Add to this stress, road rage, greater demand for car parking spaces and the health problems caused by a lack of exercise, the case for developing Travel Plans has never been stronger.
- 1.3 Whilst there is no single solution to combat these problems, a combination of individual measures implemented in the form of a Travel Plan will have a very beneficial effect. In encouraging car free access during the construction period to ABP and DTC St. Athan this Travel Plan will recommend a range of measures. Improvements to public transport information distribution, increased awareness of car share matching services and promotions to raise awareness of the health benefits of walking and cycling are all measures listed on this Travel Plan.
- 1.4 This Travel Plan is focussed on the specific transport issues which affect the construction workforce commuting to the development at ABP and DTC St. Athan. It will recommend a wide range of measures to counteract dependence on the car. The Plan is designed to encourage individuals to make the most appropriate choice for their journey while allowing retention of freedom of choice.
- 1.5 This Travel Plan is more than a report. It is an evolving document that will develop to reflect changes in the local environment and the needs of staff. Used as a tool to increase awareness of alternative transport options this Travel Plan is not anti car, instead it is designed to solicit a positive shift away from single occupant car use. Regular reviews and appraisals of the Plan will be undertaken to measure success and to determine resource allocation.

2. Policy

- 2.1 This chapter identifies the national, regional and local guidance which has been considered in the production of this Travel Plan.

National Guidance

A New Deal for Transport: Better for Everyone; 1998

- 2.2 In 1998, the Government produced a White Paper on the future of transport. Entitled 'A New Deal for Transport: Better for Everyone', the White Paper supports an integrated approach towards transport which seeks to reduce reliance on the private car and to promote sustainable modes of travel. This integrated transport strategy was reinforced in the Governments Ten year Plan for Transport (2000 – 2010) and requires the transport system to be seen in its entirety, across all modes. The concept of Travel Plans is central to this strategy.

Planning Policy Wales; Welsh Assembly Government, 2002

- 2.3 The Welsh Assembly Government aims to extend choice in transport and secure accessibility in a way which supports sustainable development by encouraging the establishment of an integrated transport system which is safe, efficient, clean and fair.

Technical Advice Note 16; Welsh Assembly Government, 2009

- 2.4 By encouraging healthier lifestyles, the Welsh Assembly Government, hopes to improve the health and well-being of people in Wales. This Travel Plan and the proposed sports facilities at Picketson will enhance the opportunity for the uptake of recreational activity.

Technical Advice Note 18; Welsh Assembly Government; 2007

- 2.5 Developers may submit a Travel Plan with a planning application, for example to illustrate existing promotion of sustainable transport activity at the site. However, in order to determine the necessity and effectiveness of the Travel Plan, it is preferable that a Transport Assessment is undertaken and the Travel Plan developed as a component of this.

Wales Spatial Plan; Welsh Assembly Government, 2008

- 2.6 In the context of responding to and mitigating the effects of climate change, the Wales Spatial Plan supports the development of spatially targeted responses. These include reducing the need to travel, by co-locating jobs, housing and services, for instance, and changing travel behaviour towards more resource efficient and healthy modes of travel, such as encouraging car sharing, public transport, walking and cycling.

Wales Transport Strategy; Welsh Assembly Government, 2008

- 2.7 The Welsh Assembly Government is determined to put transport on a less carbon intensive path. The principles of promoting sustainable transport and healthy forms of transport as a means to reduce the need to travel will contribute to a less carbon intensive transport system. The WTS aims to

make walking and cycling the first choice for shorter journeys and public transport an attractive choice for longer journeys.

Regional Guidance

Sewta Draft Regional Transport Plan; Sewta, 2008

- 2.8 The Draft Regional Transport Plan (DRTP) includes proposals to change people's attitude to travel by informing them about the range of choices available to them. This involves targeting businesses and organisations to deliver Travel Plans and to encourage the use of public transport and a reduction in single occupant car travel.

Sewta Walking & Cycling Strategy; Sewta, 2006

- 2.9 The role of walking and cycling as transport modes has been severely limited in recent decades for a number of reasons. A major factor has been the growth of out-of-town developments that, due to their location and design, are only practically accessible by the motor car. Another key constraint is the way that highway design and traffic management have tended to favour the free flow of motor vehicles, to the detriment of the mobility and safety of non-motorised road users.
- 2.10 The net effect of these factors has been to make people more car dependent and walking and cycling less pleasant and more difficult for people to undertake on an everyday basis. The resulting decline in active travel has served to make lifestyles more sedentary, people less healthy, and meant that emissions from motorised transport have continued to rise.
- 2.11 The goal of this Strategy is to get to grips with these problems, by significantly increasing the share of journeys made by walking and cycling in south east Wales and thereby reducing the impact of travel upon the environment and improving public health.

Sewta Regional Bus Strategy; Sewta, 2006

- 2.12 The primary objectives of the Strategy are to encourage:
- modal shift to buses, through providing safe, attractive and reliable alternatives to the car;
 - economic growth and prosperity through addressing spatial exclusion; and
 - reductions in social exclusion.
- 2.13 To assist in achieving these, this Regional Bus Strategy aims:
- to provide investment priorities for capital (infrastructure and vehicles) and revenue expenditure; and
 - to provide guidance for the ongoing review, development, implementation and monitoring of bus services, thus providing coordination and consistency across the region.

Sewta Rail Strategy; Sewta; 2006

- 2.14 The recommended Sewta Rail Strategy for the period 2009 – 2018 is designed to make better use of existing rail services, provide for passengers' needs, and achieve the regional economic and social objectives. The strategy recommends, amongst other things, investment in:

- station improvements;
- reliability and capacity improvements and
- frequency enhancements.

Local Guidance

Vale of Glamorgan Adopted Unitary Development Plan (UDP) - April 2005

- 2.15 The Council's transportation policy objectives for the UDP are:
- to ensure that a balance is maintained between the need to facilitate the development of the local economy, environmental concerns and social considerations, in order to create a safe, efficient and equitable transport network for the Vale of Glamorgan;
 - to maintain and improve access to employment and services;
 - to ensure that developments are accessible by means of travel other than the private car;
 - to encourage greater use of public transport, cycling and walking;
 - to safeguard road lines and routes/sites of approved transport schemes;
 - to improve the safety and convenience of all means of transport; and,
 - to ensure adequate parking facilities are provided in accordance with the Council's approved parking guidelines.

Vale of Glamorgan UDP Supplementary Planning Guidance 'Sustainable Development' - 2006

- 2.16 The purpose of this guidance is to raise the awareness of how the development of land can contribute towards sustainability. The guidance states that individual developments should provide:

'easy and safe movement for all modes of transport, especially pedestrians and cyclists, and connect to existing routes beyond the immediate development. Similarly, development proposals must give consideration to public transport provision and access and if appropriate contributions for either the provision of a new service or the upgrading of an existing public transport service may be sought through legal agreements'.

- 2.17 The document also stresses the importance of convenient pedestrian and cycle facilities and identifies a transport hierarchy with priority given to pedestrians, then cyclists, then public transport and finally private motor vehicles. The guidance then provides examples on how developers can ensure the needs of all transport users in the hierarchy are incorporated within an overall development.

3. How successful are Travel Plans?

- 3.1 There is a growing body of evidence both nationally and locally that indicates travel planning initiatives, when implemented as part of an integrated transport strategy and in the right circumstances, are an effective means of reducing car use.
- 3.2 In 2002, the Department for Transport (DfT) commissioned a report to identify and examine the 20 best performing Workplace Travel Plans in the UK. Averaged overall these plans managed to reduce the number of commuter vehicles arriving with a single occupant by 18%¹.
- 3.3 These findings were further confirmed by the DfT's 2004 'Smarter Choices' report which highlighted the potential impacts of a range of 'smart' measures. Reported benefits of travel planning include helping to reduce congestion, relieving parking pressure, making sites more accessible, improving staff travel choice and aiding retention².
- 3.4 Locally the Vale of Glamorgan Council is successfully promoting Travel Plans. Having completed their own Travel Plan in June 2005 the Council are now leading the way in encouraging new and existing businesses to consider introducing schemes to reduce reliance on the private car as a means of commuting to work. One notable achievement was the 'Better Ways' Personalised Travel Plan Project undertaken at Llandough Hospital, in which the Council played a key role.
- 3.5 The concept of Construction Travel Plans is new to the UK. In researching this report the author was unable to find any examples of other Construction Travel Plans in the UK. There are many reasons why Travel Plans covering the construction period of a development are not commonplace, these include:
- shift patterns beginning and ending outside the hours the public transport system normally operates;
 - the need to carry specialised equipment and Personalised Protection equipment, making walking and cycling less appealing ;
 - generally the individuals in the workforce are not known until just before work starts, making it difficult to plan sustainable travel in advance;
 - many members of the construction workforce have specialised skills, meaning they do not stay on the one site very long and
 - generally members of the construction workforce will travel from far and wide to a site, this is especially true at St. Athan where journey times of 2 hours are expected to be commonplace.
- 3.6 Individually these factors should not represent a significant barrier to the promotion of sustainable transport, however, when combined they present a range of challenges that will be difficult to overcome.

¹ Making Travel Plans Work, Department for Transport; 2002

² Smarter Choices' Department for Transport; 2004

4. Proposed Development

- 4.1 An assessment of alternative sites for the proposed Defence Technical College was undertaken by the Ministry of Defence. The Welsh Assembly Government also reviewed different locations for the Aerospace Business Park. In both instances, the site at St Athan was shown to have significant advantages.

Defence Technical College

- 4.2 Currently, specialist training in aeronautical, electro mechanical engineering and communication/IT disciplines takes place at nine different sites across the UK. (Drawing SA-C0XXX-MP-900-SB-X-004-P17)
- 4.3 The new Defence Technical College will bring technical training for each of the services, (Royal Navy, Army and Royal Air Force), together in one location for the first time. The benefits of this are considerable and will ensure that UK military personnel continue to receive the very best training available, whilst bringing together each of the services in one location will mean further benefits in terms of efficiency, shared learning and value for money.
- 4.4 The development of the new Technical College will transform the current site which, particularly in the case of East Camp, is currently underutilised with many of the buildings at the end of their economic life or in need of significant investment. It is envisaged that there will be 3,240 people living on site and working/training on site with a further 2,491 living off site, working on site. An additional 810 people are envisaged to visit the site / museum / church / hotel / sports facilities, generating a DTC population total of approximately 6,500.
- 4.5 Within the site, shops, public houses, restaurants, sport facilities and places of worship are proposed. This mixed use development profile will significantly reduce the traffic generation of the site.
- 4.6 The access arrangements, traffic generation and modal split for the DTC site that are stated in this report, have been provided by Metrix and are echoed in the Transport Assessment prepared by Capita Symonds. (Drawing A024845drg21)

Aerospace Business Park

- 4.7 The Aerospace Business Park will be a centre of excellence and support the Defence Technical College. It will build upon the expertise of existing aerospace businesses in South Wales, such as GE Aircraft Engine Services and General Dynamics, and bring vital new jobs to the area.
- 4.8 The Welsh Assembly Government's plan for the Aerospace Business Park is to offer the facilities and infrastructure needed for manufacturers, suppliers, service providers and trainers to the aviation sector with a particular focus on maintenance, repair and overhaul.
- 4.9 The civilian workforce travelling to ABP from the local area, consisting of approximately 798 employees in 2014, rising to 1,526 employees in 2020 and finally, it is anticipated in 2028 that approximately 2,303 will be employed by ABP.

Service Families' Accommodation

- 4.10 Associated with DTC is the construction of 483 Service Families' Accommodation (SFA) properties by 2014 to provide family accommodation for personnel during their stay. These will be located outside the security perimeter. The split in the housing numbers between the sites is:

Tremains Farm	169 units
North of West Camp	59 units
Picketston South West	83 units
Golf Course	172 units
Total	483 units

Additional Developments

Sports Facilities

- 4.11 In the Picketston area, to the west of the Northern Access Road, the following sports facilities are proposed:

- a 25m eight lane swimming pool;
- a sports centre incorporating 12 sport courts plus two squash courts;
- a fitness suite with cardiovascular equipment and free weights area;
- an eight lane floodlit athletics track

Twelve outdoor sports pitches:

- 1 rugby pitch (grass and floodlit);
- 4 rugby pitches (grass and unlit);
- 1 hockey pitch (synthetic and floodlit);
- 1 football pitch (synthetic and floodlit);
- 1 football pitch (grass and floodlit);and
- 4 football pitch (grass and unlit)
- plus one cricket square (grass) with cricket nets (synthetic)

- 4.12 These facilities will be used by the DTC but will also be available for public use outside of the core training hours.

The Military Museum

- 4.13 It is assumed that the military museum will be open on weekdays and the weekend. The museum is expected to be operated by up to 14 members of staff. It will be open to the public and will be fully accessible to a wide range of people including families, schools and military personnel. It will be situated on the perimeter of the DTC site but outside the security wire. The museum will have its own access and parking facilities off Eglwys Brewis Road, to enable access for the local community. The number of visitors per day is expected to be around 400³, although special events may attract more visitors.

³ Based on TRICS 2008 (b) data

Multi Faith Centre

- 4.14 A new church and World Faith Centre will be constructed close to the existing St. Brise Church, outside the security wire, for use by the wider community. Also a Ghurkha Temple will be constructed at this location.
- 4.15 Proposals for the site include the restoration of the listed St. Brise Church on the south side of Eglwys Brewis Road. The proposals will secure the long term preservation and restoration of the building but its final use has not yet been decided.

Crèche & Community Centre

- 4.16 There are also proposals for a crèche, south west of Picketson SFA sites. Should spaces at the crèche be available, once DTC needs have been met, this facility will be open to members of the public.

Hotel

- 4.17 A 150 bedroom hotel is proposed for use by the public adjacent to the sports facility.

5. The purpose of this Travel Plan

- 5.1 This Travel Plan is designed to cover the construction of the ABP / DTC development at St. Athan. At this stage plans for the construction period are still emerging, however, it is expected that construction will begin with advance works mid 2009 with a target completion date at the end of 2015. The workforce is expected to peak at approximately 2,000 at the end of 2012, while deliveries are expected to peak early 2013.
- 5.2 The Construction Site Employees are made up of two primary groups, Workforce and Staff. Construction site employees represent the construction labour force, generally sourced locally, employed for the duration of the project, or an element of the project. Staff represents the Principal Contractors management team and specialist sub-contractors.
- 5.3 The locations from which the workforce and the deliveries will arrive from are unknown at this stage.
- 5.4 A table highlighting the estimated construction timescales is presented in Appendix A.
- 5.5 At this stage there are a large number of unknown factors which currently restrict the potential of this construction phase Travel Plan, these include:
- the origin of the employees and the deliveries;
 - The location from which the employees will commute to / from on a daily basis;
 - generally the individuals in the workforce are not known until just before work starts, making it difficult to plan sustainable transport in advance;
 - predicted modal splits can only be guessed, given uncertainties about where the workforce will be travelling from, consequently setting targets for reducing single occupant vehicle travel is difficult, especially in the first year; and
 - to begin with construction work will revolve around civil engineering activities where labour can be sourced locally. However, as construction progresses more skilled workers e.g. steel erectors, cladding erectors and kitchen installers, who are long term employees of companies based outside the local area, will be needed.
- 5.5 In addition to this the characteristics of the construction site employees, such as the following, conspire to reduce the appeal of travelling by more sustainable transport.
- the need to carry specialised tools and equipment along with Personalised Protection Equipment;
 - shifts will often start and finish outside of the hours public transport is operational;
 - the physical nature of the work makes walking or cycling to / from work less appealing; and
 - the construction workforce is by nature very transient making it difficult to establish routines based around sustainable transport

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- 5.6 Traditionally Travel Planners would know the workforce. In addition to this the travelling patterns of the workforce would be much more established. When preparing conventional Workplace Travel Plans, the Travel Planner will have had the opportunity to consult with the end users. This information would form the foundation upon which a package of sustainable transport measures would be developed. The consultation will also assist in the setting of targets and objectives.
- 5.7 However, as with all construction phase Travel Plans this information is not readily available, making it more difficult to formulate a package of sustainable transport measures. The setting of targets also becomes very difficult due to the lack of information.
- 5.8 Despite these difficulties a comprehensive range of potential sustainable transport measures are presented in Section 11. As more information about the workforce becomes available these measures should be reviewed and if necessary updated.

6. Construction site employees and delivery estimated trip generation

Construction site employees

- 6.1 A critical element to this Travel Plan will be understanding from where the construction site employees will be travelling. The travelling patterns and needs of these individuals will have a major impact on the type of measures that will be presented in the final Travel Plan.
- 6.2 Estimates of the predicted size of the workforce, number of staff and the expected length of the construction period are available. Currently it is believed construction will begin in mid 2009. The target completion date is end of 2014. Construction is expected to peak at the end of 2012 when over 2,000 construction staff will be working on various aspects of the development.
- 6.3 Each of the different construction projects have different start and finish times during the six year construction period. During this time the size of the workforce will fluctuate according to workload. Table 1 highlights the different construction projects along with approx start / end dates and estimated peak workforce numbers.

Table 1: Approx start & finish dates / estimated peak employee numbers

Project	Approx start date	Approx end date	Peak Numbers / Date (approx)
Early works (4 School of Technical Training)	Mid 2009	Mid 2010	220 / Mid 2010
Northern Access Road and Eglwys Brewis Road	End 2010	End 2013	125 / late 2011
Gileston re-alignment	End 2010	Early 2011	45 for the duration
B4265 St. Athan junction	End 2010	Early 2011	25 for the duration
DTC Main Works	Mid 2010	End 2014	1555 / end 2012
SFA Picketston & Termains	Early 2011	Mid 2014	300 / mid 2012
SFA St. Athan Golf Course Site	Early 2011	Mid 2014	130 / mid 2012
ABP Phase 1	Early 2011	End 2014	141 / early 2013
Overall	Mid 2009	End 2014	2190 / end 2012

- 6.4 Estimated construction site employee numbers are presented in Appendix B.
- 6.5 It is difficult so far in advance of the main construction period to predict modal split because we do not know who the workforce are, nor do we know where they will be travelling from. However, predictions as to the likely modal split are:
- Public transport 5%
 - Contractor transport 25%
 - Private transport 70% of which approximately 70% will be in single occupant vehicles and approximately 30% will be car sharing

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- 6.6 Based on this assumption estimated trip numbers to the site are expected to peak at over 1270 arrivals per day in late 2012.
- 6.7 At this stage it is estimated that the construction site employees will arrive onto site between 06:30 and 08:30 with the peak arrivals occurring between 07:00 to 08:00. It is estimated that they will depart the site between the hours of 16:30 and 19:00, with peak departures occurring between 17:00 and 18:00.
- 6.8 The estimated trips for the construction site employees are shown in Appendix C.

Construction site employee origin

- 6.9 The locations from which the construction site employees will travel from will not be known until much closer to the commencement of works. However, early estimates are available as to the likely origin. Based on previous experience of major construction projects in South Wales, it is anticipated that 20% of the workforce will originate from the west (Port Talbot, Swansea, West Wales) 15% from the north (Bridgend and western valleys) and the remainder coming from the east (Cardiff, Newport, Bristol, M4/M5 corridors).
- 6.10 Some of the construction site workers will secure lodgings locally, in the Cardiff, Barry, Llantwit Major and Bridgend areas during the week. While others will travel from further a field on a daily basis.
- 6.11 For construction site employees undertaking this commute car sharing and travelling via contractor mini buses become very attractive alternatives to travelling as a single occupant in a private vehicle due to the ability to reduce travelling costs and vehicle wear and tear.
- 6.12 Employees may also commute from the local area. For this group public transport, walking and cycling may become a realistic alternative to car travel. However, the propensity for the construction site employees to travel via public transport may be hampered by early start and late finish times outside of the hours the public transport system normally operates. In addition to this, the need to carry heavy equipment and Personal Protection Equipment may hamper the ability of the workforce to use walking and cycling as a means of travelling to the site.
- 6.13 It is recommended that the starting locations of the construction workforce be identified and recorded as soon as possible. However, this is difficult to do so far in advance, the transient nature of the workforce and the vagaries of UK weather all combine to make it very difficult to determine the starting location of the workforce. The following estimates the likely regional origins of the workforce: It should also be recognised that a significant, as yet unknown, proportion of the construction workforce will be sub-contracted.

Table 2: Estimated likely regional origins

	Car %	Bus / Van %	Public Transport %
East	65	65	70
North	15	15	5
West	20	20	25

Deliveries

- 6.14 In addition to the trips generated by the workforce commuting to the site, the flow of delivery vehicles will also be considered within this Travel Plan. Presently, it is not known exactly how many delivery trips will be made during the construction period, however, the following estimate is provided:

Table 3: Approx start & finish dates / estimated peak delivery numbers

Project	Approx start date	Approx end date	Peak Numbers / Date (approx)
Early works (4 School of Technical Training)	Mid 2009	Mid 2010	40 / end 2009
NAR & EBR	End 2010	End 2012	50 / mid 2011
Gileston re-alignment	End 2010	Early 2011	26 / early 2011
B4265 St. Athan junction	End 2010	Early 2011	10 / early 2011
DTC Main Works	Mid 2010	End 2014	205 / end 2012
SFA Picketston & Tormains	Early 2011	Mid 2014	70 / end 2012
SFA St. Athan Golf Course Site	Early 2011	End 2014	30 / end 2012
ABP Phase 1	Early 2011	End 2014	42 / mid 2012
Overall	Mid 2009	End 2014	350 / early 2013

- 6.15 Appendix D suggests the estimated number of one way deliveries per quarter for the duration of the construction period.
- 6.16 According to the latest estimates deliveries are expected to peak in early 2013 with an estimated 350 one way deliveries per quarter.
- 6.17 The following tables highlight the estimated direction of arrival for the delivery vehicles. Proposed construction routes are illustrated in Appendix E.

Table 4: Estimated direction of arrival for delivery vehicles

Arrival direction	HGV %	LGV %
East	80	75
North	5	10
West	15	15

7. Site Assessment

Public Transport – Rail

Existing Train Service

- 7.1 Llantwit Major Railway Station provides modern interchange and park-and-ride facilities. It is situated on the Vale of Glamorgan (VOG) Line which links Cardiff and Bridgend calling at Grangetown, Cogan, Eastbrook, Dinas Powys, Cadoxton, Barry Docks, Barry, Rhoose and Llantwit Major. A free shuttle bus (Service 905) connects Rhoose Railway Station to Cardiff International Airport.
- 7.2 The VOG line was re-opened to passenger traffic (previously freight only) on 10th June 2005 and carried over 225,000 passengers during the first year of operation. The service operates on an hourly frequency Monday to Saturday, reducing to 2-hourly on Sundays:

Table 5: Departure times TO Llantwit Major

From	Service	Mon to Sat	Sun
Cardiff	First	05:41	08:41
	Last	22:41 (21:41 Sat)	20:41
Bridgend	First	05:42	09:42
	Last	22:42	21:42

Table 6: Departure times FROM Llantwit Major

To	Service	Mon to Sat	Sun
Cardiff	First	05:56	09:56
	Last	22:56	21:56
Bridgend	First	06:22	09:22
	Last	23:22 (22:22 Sat)	21:22

- 7.3 Westbound and Eastbound trains arrive at Llantwit Major Railway Station at 22 and 56 minutes past the hour respectively.
- 7.4 The stations at Llantwit Major and Rhoose permit a maximum of 4 cars per train (4 x 23m). However other stations (Eastbrook) are limited to 4 x 20m stock, enabling a maximum provision of 276 seats per hour per direction with 4 x class 150 stock. Current operations comprise 2-car 150 Sprinter sets providing a capacity of 138 seats per hour per direction. Trains with double sets (4 car Sprinter or Pacer) include the 0742 Bridgend – Cardiff (4 car 150 sprinter unit) and 1741 Cardiff – Bridgend (4 car 143 pacer unit).
- 7.5 Cardiff can also be reached via Bridgend, for very little time penalty, which also offers direct mainline connections to eastward destinations such as London and Manchester as well as westbound destinations such as Swansea.
- 7.6 Each station is unmanned, however 'help points' are located on each platform to provide user assistance if required. Parking facilities are available at each

site. Llantwit Major Station has recently had considerable infrastructure investment and is a station with modern parking and public transport interchange facilities. The platforms can serve four carriage trains if required. Due to this recent investment no improvement works are planned at Llantwit Major Train Station itself other than what, if any, may be deemed necessary for security purposes.

- 7.7 Integration with the bus/rail networks is facilitated through bus service X45 which connects St Athan with Llantwit Major Station.

Public transport - buses

- 7.8 The Vale of Glamorgan Local Bus Strategy (2004) outlines the Vale of Glamorgan Council's proposals to provide enhancements to the bus network to address the historic decline in patronage. Based on this strategy, the bus services in and around the St Athan site will be enhanced and the infrastructure improved.

Existing bus service

- 7.9 The site is currently served by 5 bus routes. These are illustrated in Drawing CG/2419/TA02 and summarised in the following table

Table 7 – Existing Routes Serving the DTC / ABP Site

Svc No	Route	Days of Operation	Frequency	1st	Last	Operator
V2	Cowbridge - St Athan - Llantwit Major – via Boverton Castle, St Athan, Flemingstone, New Barn, St Mary Church & St Hillary	Mon to Sat	2 hourly	08:20	18:25	Cartel Travel (part of EST)
X5	Llantwit Major – Cardiff Via Cardiff Airport, Barry, Llandough Hospital	Sun & Bank Holiday Mon	2 hourly	07:45	22:50	Veolia Transport Cymru
X45	Cardiff City Centre to Llantwit Major via Barry. Connecting service 145 to Bridgend	Mon to Sat	Hourly	06:10	19:36	EST Bus Ltd
X91	LLANTWIT MAJOR - CARDIFF (Limited Stop Via St. Athan, Rhoose, Wenvoe, Ely Link Road, Wellington Street	Mon to Sat	Hourly	07:01	19:06	Cardiff Bus
X91	LLANTWIT MAJOR - CARDIFF (Limited Stop Via St. Athan, Rhoose, Wenvoe, Ely Link Road, Wellington Street	Sun	2 Hourly	08:30	19:15	Cardiff Bus
95	Llantwit Major to Cardiff	Mon to Sat	Hourly	18:58	22:53	Veolia Transport Cymru

Notes:

- Frequency refers to peak daytime service level; this is likely to be lower during evenings
- 1st and Last – refers to earliest outward call and last departure at St Athan/Eglwys Brewis.
- Number of journeys refers to those trips serving Eglwys Brewis, with each return trip = 1 journey

- 7.10 Current service patterns provide access from a range of destinations, with operation between approximately 06:00 and 19:00 hours. This provides access to the facility during the main hours of operation – particularly those staff originating from the main population centres of Barry, Bridgend and Cardiff.

- 7.11 Existing provision has a relatively low frequency, which results in a low hourly capacity and requires users to plan their journey in advance, often requiring early arrival at a bus stop to ensure they make their connection.

8. Pedestrians/Cyclists

Pedestrians

- 8.1 Pedestrian linkage within and to the site has been based on the Vale of Glamorgan's UDP Supplementary Planning Guidance on Sustainable Development, which states:

“(i) Pedestrians

Provide convenient routes, which are easy, safe and attractive to use;

Provide clear sign posting and lighting where appropriate;

Link routes to local facilities, public transport nodes, open spaces and longer distance footpaths such as public rights of way;

Provide conveniently located pedestrian crossing points on busy sections of road”

Measures

- 8.2 Pedestrian linkage has been provided between the SFA and DTC as well as the nearest existing or proposed bus stops. Links between Llantwit Major Railway Station and the site have also been created. The proposed linkages are shown on Drawing 003622/PA/100. These plans also show existing footpaths and, where required, their rerouting.
- 8.3 A footpath/cycleway is proposed along the entire length of the Northern Access Road (NAR), which will be lit, providing connectivity between Boverton/Llantwit Major and the proposed developments. The existing steps on the B4265 cut slopes are retained providing pedestrian access to the proposed NAR/B4265 signalised junction. Pedestrians are accommodated at the junction with at grade pedestrian crossings. An alternative route to the cut slope steps is proposed on the B4265 northern verge, between the B4265 NAR junction to Llanmaes signals, where pedestrians and cyclists will cross at grade. Pedestrians complete their journey to Llantwit Major Railway Station using existing footpaths provided either side of Llanmaes Road. Cyclists will be required to use the main carriageway for this section of their journey.
- 8.4 Between the B4265 and Froglands Farm the pedestrian and cyclist facilities comprise of a 3.0m shared use footway cycleway on the northern side of the NAR. At Froglands Farm a 2.5 m central island crossing point is provided and the southern verge widens to accommodate a 3.0m shared use footway cycleway. This facility continues for the remaining length of the scheme providing pedestrian/cycle access to the ABP, Gate 1 and Gate 2/3.
- 8.5 The 3.0m footway /cycleway is proposed to extend between Gate 1 and the junction of St Athan Road. This will provide access to the site from the proposed SFA on the Golf Course site and provide improved access for the existing community to the SPAR shop on Eglwys Brewis Road. Detailed drawings of this link are still being discussed between the developer and the Vale of Glamorgan Council.
- 8.6 The section of the route from Llantwit Major Railway Station to B4265 Llanmaes Signals is lit as a pedestrian route. Street lighting is mounted on wooden poles at a height of 8m or provided on 6m steel columns located at

the back of the footway. Whilst not designed specifically for a footway/cycle way they provide sufficient light. The remainder of the proposed footway / cycleway route to the site is either new build or adjacent to the B4265. The intention is to light all the route, subject to agreement with the Vale of Glamorgan Council.

- 8.7 SFA sites bound the NAR. Pedestrian connections are proposed from each site to the combined footway/cycleway on the NAR. Both Tremains Farm and North of West Camp sites have pedestrian connections to Eglwys Brewis Road with either existing footways or proposed footways connecting these sites to existing bus stops. The Picketston South West site also has connectivity to the bus stop on Eglwys Brewis Road through the proposed provision of an uncontrolled crossing point, with dropped kerbs and buff coloured tactile paving.
- 8.8 At grade and grade separated crossing points are proposed on the NAR. The grade separated facility is to be located adjacent to Gate 2/3. The bridge will not be DDA compliant but an at grade facility at the adjacent traffic signals will meet DDA criteria and provide positive control for pedestrians.
- 8.9 The existing Safe Routes to School scheme at Boverton has also been connected to via the proposed bus stop footpath along Eglwys Brewis Road from the North of West Camp SFA site. Pedestrians from the SFA sites will be able to access this route by following the footpath through Eagle Way and crossing the B4265 at Boverton signals, which has an existing at-grade pedestrian crossing.
- 8.10 Improved cycling and pedestrian links between the development and Llantwit Major/St Athan are proposed to encourage the local community to walk or cycle to and from the site.

Cyclists

- 8.11 The proposals detailed are based on the Vale of Glamorgan's UDP Supplementary Planning Guidance on Sustainable Development, which states:
- *“(ii) Cyclists*
 - *Provide direct, safe and attractive routes;*
 - *Link routes within developments to the wider cycle network*
 - *Provide prominent, secure cycle parking which should be close to building entrances or inside buildings and should avoid the need to carry cycles over steps”*
- 8.12 The 3.0m shared use footway / cycleway on the NAR, will extend from the B4265 Llanmaes Signals to St. Athan Road. At Llanmaes Signals the existing crossing facilities will be improved by the installation of red tactile paving and extension of the existing central island from 1.8m to 4.0m. Drawing 003622/PA/100.
- 8.13 The existing southern section of Eglwys Brewis Road will have a substantial decrease in traffic flow, which will encourage further cycle use.
- 8.14 It is worth noting that not all these facilities will be available when construction begins.

9. Accident Data

- 9.1 Injury only road traffic accident statistics for the study area have been obtained from The Vale of Glamorgan Council for the 5 year period from July 2003 to May 2008. The area covered stretches from Pentre Meyrick in the north-west to Waycock Cross Roundabout in the south-east. The accident statistics are summarised below in Tables 4 and 5 with full details attached on drawing CG/2419/TA05.

Table 8: Accidents by Year and Severity

	Jul-Dec 2003	2004	2005	2006	2007	Jan-May 2008	Total
Fatal	3	1	1	3	1		9
Serious	5	5	3	5	5	4	27
Slight	20	44	47	31	21	16	179
Total	28	50	51	39	27	20	215

- 9.2 In total 215 accidents have been reported in the five-year period, with 9 fatal accidents and a further 26 identified as serious. Table 5 below shows the casualties by severity.

Table 9: Total casualties by severity

Severity	Casualties
Fatal	9
Serious	28
Slight	287
Total	324

Accident clusters

- 9.3 In this instance an accident cluster is defined as an area where 3 or more accidents occurred during the 5 year period from July 2003 to May 2008. In total there are 20 accident cluster sites in the study area, these are described in Appendix E and illustrated on drawing CG2419/TA05.

Fatal injury locations outside cluster areas

- 9.4 There were 6 fatal injuries during this period that have not been considered as part of a cluster.
- 9.5 Four of these accidents occurred at separate locations three along the A4226 and one on the B4270 and resulted in fatal injuries to motorbike riders. Two riders lost control of their vehicle and one rider collided with a vehicle when the driver pulled out of a junction into their path. The fourth rider had just completed an overtaking manoeuvre when they collided head on with a vehicle travelling in the wrong carriageway to avoid a collision in other lane.
- 9.6 The other two fatalities were car drivers who lost control of their vehicles. No other vehicles were involved in either accident. Both were travelling in hours of darkness in fine weather with dry road surfaces.

Serious injury locations outside cluster areas

- 9.7 There were 17 serious injuries during this period that have not been considered as part of a cluster.

Slight injury locations outside cluster areas

- 9.8 The remaining accidents were distributed around the network and no particular accident types occurred with sufficient frequency to be considered as potential problems.

10. A Travel Plan management structure

10.1 A key lesson from workplace and school travel plans is the importance of establishing a clear structure for the ongoing management of the plan. It is recommended that a Travel Plan Management Board be created to oversee the development of this Travel Plan. Consisting of individuals representing DTC, ABP, DE, the Principal Contractor, VOG as well as local transport providers, and the Sewta Regional Travel Plan Co-ordinator this group will have the following responsibilities:

- provide the management support to take ideas forward and make strategic decisions regarding resources and budgets;
- steer the Travel Plan in the desired direction and address any issues that arise;
- set tasks, priorities and work programmes for the Travel Plan Co-ordinator; and
- monitor and review progress and identify realistic targets for taking the Travel Plan forward.

10.2 The Management Board will have overall responsibility and will aim to ensure that the Travel Plan meets its objectives and targets. The Management Board will make and approve strategic recommendations as appropriate.

10.3 The Travel Plan Management Board will be created at least 3 months prior to the commencement of the main construction period. This will allow the Board time to appoint a Travel Plan Co-ordinator as well as enabling them to set tasks, priorities and work programmes for the Co-ordinator.

10.4 It is recommended that the Travel Plan Management Board should function for the duration of the construction period and meet on a 6 monthly basis. After the first year the Management Board will decide on the frequency on the meetings.

Targets

10.5 To begin with construction work will revolve around civil engineering activities where labour can be sourced locally. However, as construction progresses more skilled workers e.g. steel erectors, cladding erectors and kitchen installers, who are long term employees of companies based outside the local area, will be needed.

10.6 Consequently, there is a strong possibility that as the construction project progresses and as more and more specialist contractors are required, the number of single occupant vehicle trips to the site could increase, because the skilled workforce is not available locally.

10.7 This fact combined with the issues highlighted in paragraphs 5.4 and 5.5 making setting targets for this Travel Plan very difficult. Consequently, and until more information on the workforce is available, this Travel Plan will attempt only to set targets for the first two years of the construction period. Future targets will be set to reflect previous achievements, and consultation with the workforce.

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- 10.8 The following suggests annual single occupant vehicle reduction targets for the first two years of this Travel Plan.

Year 1 - 2010: 5% reduction
Year 2 - 2011: 10% reduction

Travel Plan objectives

- 10.9 The initial objectives of this Travel Plan are adopted from the Welsh Assembly Governments Smarter Choices report published in 2007. It is understood that these objectives should be refined following the first meeting of the Travel Plan Management Board, however, it is felt they provide a good foundation upon which to develop more specific objectives.

- give people better and more focussed information about their travel options;
- market and promote sustainable travel more effectively to encourage their use;
- make improvements to the way services are organised to ensure they appeal and cater for particular groups of potential users;
- target transport advice and services to particular groups; and
- Harness technology and facilities that reduce the need to travel

Travel Plan Co-ordinator

- 10.10 Another key role of the Management Board will be to appoint a Travel Plan Co-ordinator. Most successful Travel Plans have a Travel Plan Co-ordinator who is responsible for implementing the individual measures. The Travel Plan Co-ordinator should act as the key promoter of the components of the Plan and secure implementation, as well as being a key point of contact. The Travel Plan Co-ordinator will need to be supported by all parties.

- 10.11 The appointment of a Travel Plan Co-ordinator is critical to the future success of this emerging Travel Plan. The Making Residential Travel Plans Work report published in 2005 by the DfT states ' it is important the Travel Plan Co-ordinator functions are located on site and carried out by an individual who can make regular convenient contact with users.

- 10.12 The Travel Plan Co-ordinators should possess enthusiasm, negotiating skills and an ability to communicate at all levels. Typical responsibilities will include:

- develop and oversee the implementation of initiatives outlined in the Plan;
- monitor progress of the Plan, and report to key organisations, e.g. Council and local transport operators;
- design and implementation of an effective marketing and awareness raising campaign;
- manage proposed Demand Responsive Transport service;
- manage the car share database;
- negotiate public transport discount fare schemes;
- manage cycle promotion schemes and events;
- provide green travel advice and information to residents;
- co-ordinating data collection to develop the Travel Plan;
- acting as a point of contact for all residents;

-
- liaising with local authorities, transport operators and schools; and
 - evaluating and monitoring the Plan and setting up a monitoring system.
- 10.13 The Principal Contractor will provide services of the Travel Plan Co-ordinator. This will ensure the appointed individual has the ability to oversee all construction elements.
- 10.14 Assuming an individual with no travel planning experience are appointed it is recommended that they undertake some dedicated travel plan training. The following methods could be used to deliver the appropriate level of training:
- An intensive Travel Planning Training Course, delivered by an experienced Travel Planner. This should be tailored to meet the needs of the new Co-ordinator and the site in an attempt to ensure the individual has a good understanding of the Travel Planning process.
 - The Co-ordinator should be encouraged to attend Conferences and Travel Planning Master Classes arranged by ACT / Travelwise. These provide excellent information and advice for individuals who are new to the trade by facilitating the exchange of good practise with other travel planning practitioners across the UK. For more information visit:

www.acttravelwise.org
 - Sustrans and Sewta (South East Wales Transport Alliance) may be available to deliver tailored training to assist in the ongoing implementation and monitoring of the Travel Plan.
- 10.15 The combination of these measures will provide the fledging Travel Plan Co-ordinator with the skills and knowledge needed to develop the emerging Travel Plan and successfully facilitate its implementation.
- 10.16 It is recommended that Travel Plan Co-ordinator is appointed 3 months before commencement of the main construction period. This will enable the Travel Plan Co-ordinator to undertake the necessary training as well as allowing them time to start preparing the foundations upon which to deliver the various measures.
- 10.17 To implement the measures listed in section 11 of this Travel Plan the Principal Contractor will provide a Travel Plan Co-ordinator. The role of the Travel Plan Co-ordinator will be carried out alongside other tasks. Appendix G forecasts the amount of time to be allocated to the role and the associated costs. The Principal Contractor will commit on average almost £10,000 per year for the six years of this Travel Plan to provide the services of a Travel Plan Co-ordinator.

11. Potential sustainable transport measures

- 11.1 Given that the travelling patterns and needs of the construction site employees are not known at this stage, this chapter will present an extensive list of Travel Plan measures that could be introduced in an attempt to reduce the number of single occupant vehicles arriving on site during the construction period.
- 11.2 When more information is available it will be the responsibility of the Travel Plan Co-ordinator to present and deliver the most appropriate measures from this list to the employees.

Walking

- 11.3 Walking is free and available to almost everyone, it has noticeable health benefits and for many members of staff the journey to and from work may represent their only opportunity to partake in regular exercise.
- 11.4 According to 2005 Travel to Work Survey walking accounts for 17% of all journeys to work in the Eglwys – Brewis area⁴. It is well understood that walking is not for everyone given the distances involved and the need to carry equipment to work. However, further analysis of the Travel to Work Survey revealed that 43% of journeys to work by residents in the Eglwys - Brewis area were less than two kilometres⁵. This suggests there is significant potential to promote walking as a viable realistic alternative to the car, especially for those living close to the site.
- 11.5 In an attempt to increase the number of employees walking to the site, the following measures may be offered by the Travel Plan Co-ordinator:
- **Walking maps:** Issue maps of the local area identifying walking routes that connect to the site
 - **Health benefits:** Present information detailing the health benefits of walking
 - **Shower & changing facilities:** Provide shower and changing facilities to enable pedestrians to change from walking clothes into work clothes

Cycling

- 11.6 Cycling is an economical, environmentally friendly and healthy means of transport. It provides a realistic alternative to the car for many short trips, especially those that do not require significant baggage to be carried. It can provide affordable access to shops, jobs, education and healthcare. According to the British Medical Association 'cycling twenty miles a week halves the risk of a heart attack. Regular cyclists are as fit as non-cyclists ten years younger⁶.
- 11.7 According to the 2005 Travel to Work Survey cycling accounts for 9% of all commuter journeys made by residents in the Eglwys-Brewis area⁷. Cycling will not always be an option for longer journeys, for travelling in bad weather

⁴ 2005 Travel to Work Survey; Office of National Statistics

⁵ 2005 Travel to Work Survey; Office of National Statistics

⁶ Walk in to Work Out, British Medical Association; 2002

⁷ 2005 Travel to Work Survey; Office of National Statistics

or at night or when carrying heavy items. The 2005 Travel to Work Survey reveals that almost 50% of all commuter trips in the Eglwys Brewis area is less than 5 kilometres⁸. This suggests there is significant potential to promote cycling as a viable realistic alternative to the car, especially for those living close to the site.

11.8 In an attempt to increase the number of employees cycling to the site, the following measures may be offered by the Travel Plan Co-ordinator.

- **Cycling maps:** Provide maps of the local area identifying cycling routes that connect to the site
- **Health benefits:** Present information detailing the health benefits of walking
- **Shower & changing facilities:** Provide shower and changing facilities to enable pedestrians to change from cycling clothes into work clothes
- **Secure cycle parking:** Erect secure cycle stands to reduce the fear of theft and damage to bicycles
- **Cycle maintenance:** Bicycle mechanics will be invited, once a year, to provide a repair service to cycles used for commuting purposes

Public transport

11.9 Public transport can provide a realistic alternative to the car and is often perceived as an unattractive mode of transport. In recent years:

- improvements to bus fleets has resulted in more comfortable journeys;
- the introduction of more buses has reduced overcrowding;
- the creation of bus lanes has improved journey times; and
- the price of a bus ticket may be competitive when compared to the true costs of running a car.

11.10 The bus is an essential mode of public transport. It provides mobility for people without access to a car and offers a relatively cheap and sustainable alternative to the car, particularly in congested areas. Buses help reduce road traffic, improve air quality, accessibility and road safety.

11.11 In an attempt to increase the number of employees arriving by public transport, the following measures may be offered on the final Travel Plan.

- **Timetable information:** Timetable information will displayed in all public areas
- **Personalised bus timetables:** Traveline Cymru will be approached to provide personalised bus timetables for staff interested in travelling by bus
- **Discounted tickets:** Transport operators will be approached in an attempt to secure discounted bus fares
- **Shuttle bus:** The possibility of providing a shuttle to make collections in the local area and at the main transport interchanges will be investigated

⁸ 2005 Travel to Work Survey; Office of National Statistics

Car sharing

- 11.12 Car sharing involves two or more people sharing the same car for the same journey. Car sharing has the potential to quickly reduce the number of single occupant vehicles arriving on site, thereby, significantly reducing pollution, congestion levels and demand for car parking spaces.
- 11.13 Car sharing maintains the directness and flexibility of car travel, while allowing participants to reduce their fuel bill and wear and tear on their own vehicle. Car-sharing with one other individual can half the fuel bill, while sharing with two others can reduce the fuel bill by two thirds if travelling costs are equally shared.
- 11.14 It is likely that car sharing will form a central element of this Travel Plan for the following reasons:
- Staff will be travelling from a very dispersed catchment area
 - A significant amount of travelling may need to be done outside the hours that the public transport system operates
 - Staff may need to carry heavy equipment
- 11.15 Early modal split predictions suggest car sharing could account for 60% of all construction commuter trips to the site. Therefore, significant resources will be made available to promote this form of transport. In an attempt to increase the number of employees car sharing, the following measures may be offered on the final Travel Plan.
- **Car share database:** In an attempt to assist construction staff identify possible car share partners a matching service will be made available. Given the wide catchment area the following car share databases will be promoted:

www.sewtacarshare.com – covering South Wales
www.swwitch2share.com - covering West Wales
www.midwalescarshare.com – covering mid Wales
www.2carshare.com – covering Bristol, Bath, Somerset and Gloucester
www.carshareswindon.com – covering Swindon
 - **Preferential car parking:** It is likely that car parking provision on the site will be limited. Guaranteed preferential parking spaces may be provided to car sharers. Equally important here is the need to ensure that single occupant car users are not discriminated. Such that they might park off site.

Other Travel Plan Measures

Travel Plan welcome pack

- 11.16 In an attempt to prevent construction site employees developing car dependent habits they will be given an information pack containing details of the Travel Plan and the available sustainable transport alternatives before they arrive on site. It is recommended the packs contain information on the following: (web links are provided to give an example of the type of material that can be provided within the Welcome Packs).

-
- Bus timetables www.traveline-cymru.info
 - Car sharing opportunities www.sewtacarshare.com
 - Walking and cycling routes www.valeofglamorgan.co.uk
 - Sustainable transport directions www.sustrans.org.uk
 - Promotional material citing the benefits of increased activity on the journey to work www.sustrans.org.uk

11.17 These packs should be prepared by the Travel Plan Co-ordinator in tandem with the Local Authority, Sustrans, the Sewta Regional Travel Plan Co-ordinator and the local transport operators. Efforts will be made to ensure that only those living close enough to walk / cycle will be given walking / cycling information.

11.18 In an attempt to improve information distribution it is recommended the Travel Plan Co-ordinator creates a Travel Plan website. This website should be a 'one stop shop' for all information on sustainable transport.

11.19 The site should contain easy to navigate links to the following:

- sustainable transport directions;
- cycling;
- walking;
- public transport;
- car sharing;
- useful links; and
- results from the monitoring surveys

Delivery traffic

11.20 In an attempt to reduce the impact of delivery vehicles the following Code of Conduct will be introduced:

- deliveries vehicles will be given allocated delivery slots; and
- drivers must not arrive more than 30 minutes prior to their allocated delivery time; and
- all deliveries must leave the site immediately after being off loaded / reloaded; and
- no delivery vehicles to be parked on site overnight

11.21 To enable the implementation of the Travel Plan measures listed in this section £5,000 per year will be made available to the Travel Plan Co-ordinator.

12. A monitoring strategy

Monitoring Strategy

- 12.1 Monitoring Travel Plans is central to ensuring that the aims of the Plan are delivered. A robust monitoring strategy is needed to measure the success or otherwise of the various elements of the Travel Plan. An effective monitoring strategy will highlight the best performing areas of the Travel Plan, it will also draw attention to elements that are not performing as well as anticipated.
- 12.2 The following measures may be undertaken as part of the monitor strategy for the final Travel Plan:

Annual Travel Survey

- 12.3 This will be the main tool for gathering information on travel behaviour. Undertaken on an annual basis this questionnaire will be designed in such a way so as to allow recipients the opportunity to record how they normally travel to work as well as enabling them to identify what initiatives would encourage them to travel by more sustainable means.
- 12.4 As far as possible the same questions and format will be used across the different construction sites to allow for consistency and easy comparison.
- 12.5 A sample Travel to Work questionnaire is provided in Appendix H. The final questionnaire will be designed by the Principal Contractor.

Car share database registrations

- 12.6 With assistance from the Sewta Regional Travel Plan Co-ordinators it will be possible to monitor usage levels on the car share databases. Reports providing information on membership levels and the number of successful matches can be obtained and scrutinised to establish how effectively this particular element of the Travel Plan is performing.

Preferential car share spaces

- 12.7 The number of cars using the preferential car share spaces will be counted and recorded on two different occasions throughout the year. In following years the counts will take place on the same two dates.

Cycle parking

- 12.8 The number of cycles parked on site will be counted and recorded on two different occasions throughout the year. In following years the cycle counts will be undertaken on the same two dates.

Public Transport – Bus

- 12.9 The number passengers disembarking from a selection of buses servicing the site will be counted and recorded on two different occasions throughout the year. In following years the counts will take place on the same two dates.

Reporting

- 12.10 Annual Reports detailing Travel Plan achievements will be provided to the Local Authority.

13. Conclusions

- 13.1 This Travel Plan presents a foundation upon which an extensive range of sustainable transport measures can be developed. This Travel Plan should evolve as more information about the construction site employees becomes available.
- 13.2 A key recommendation of this Plan is to identify, as far as possible, the locations from which the workforce will be travelling from. Once this has been established, targets can be developed and the exact nature of the sustainable transport measures that will be offered will become clearer.
- 13.3 A Travel Plan Management Board consisting of members representing DTC, ABP, VOG, the Principal Contractor, Sewta and the local transport operators will be created 3 months prior to the commencement of construction. This Board should, initially, meet on a 6 monthly basis.
- 13.4 A Travel Plan Co-ordinator will be provided for the duration of the construction phase.
- 13.5 The first job of the Travel Plan Co-ordinator will be to review the Travel Plan measures presented in section 11 and, if necessary, amend them to reflect the locations from which the employees will be travelling.

APPENDIX

Appendix A: Estimated construction timescales

	2009				2010				2011				2012				2013				2014			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
Early works (4 School of Technical Training)																								
DTC Main Works																								
Northern Access Road Open to DTC Traffic																								
Eglwys Brewis Upgrade - to Gate 2																								
Eglwys Brewis Upgrade - Gate 2 to Gate 1																								
Gileston Old Mill Re-alignment																								
B4265 St Athan Junction																								
SFA - Picketston & Tremains																								
SFA - St Athans Golf Course Site																								
Aerospace Business Park - Phase 1																								

Appendix B: Estimated construction site employee numbers

		2009				2010				2011				2012				2013				2014			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
Workforce	4SoTT/Utilities/Demolition	0	24	144	184	130	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NAR & EBR	0	0	0	0	0	0	14	77	40	97	40	0	3	22	22	8	0	0	27	0	0	0	0	0
	Gileston Re-alignment	0	0	0	0	0	0	40	40	40		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	B4265 St Athan Junction	0	0	0	0	0	0	0	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DTC Main Works	0	0	0	0	0	100	200	200	300	400	600	600	800	1000	1200	1200	1200	1200	1000	1000	600	400	200	30
	SFA - Picketston & Tremains	0	0	0	0	0	0	0	0	0	67	119	141	150	207	264	264	247	251	145	119	93	31	0	0
	SFA - Golf Course Site	0	0	0	0	0	0	0	0	0	29	51	61	65	89	113	113	106	108	63	51	40	14	0	0
	ABP - Phase 1	0	0	0	0	0	0	0	0	24	44	52	61	71	102	108	111	111	108	93	75	68	57	40	30
	Total	0	24	144	184	130	174	254	337	424	637	862	863	1089	1420	1707	1696	1664	1667	1328	1245	801	502	240	60
Staff	4SoTT/Utilities/Demolition	0	15	27	33	20	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NAR & EBR	0	0	0	0	0	0	12	20	18	22	18	0	7	7	7	5	0	0	7	0	0	0	0	0
	Gileston Re-alignment	0	0	0	0	0	0	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	B4265 St Athan Junction	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DTC Main Works	0	0	0	0	0	75	75	105	155	195	235	295	330	355	355	355	355	355	355	335	215	155	95	12
	SFA - Picketston & Tremains	0	0	0	0	0	0	0	0	0	14	17	17	25	32	32	32	32	21	21	21	21	11	0	0
	SFA - Golf Course Site	0	0	0	0	0	0	0	0	0	6	7	7	11	14	14	14	14	9	9	9	9	5	0	0
	ABP - Phase 1	0	0	0	0	0	0	0	0	10	12	16	18	18	18	18	18	18	18	16	15	10	9	9	9
	Total	0	15	27	33	20	90	93	134	192	249	293	337	391	426	426	424	419	403	410	381	260	181	104	21
Visitors	4SoTT/Utilities/Demolition	0	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NAR & EBR	0	0	0	0	0	0	3	3	3	3	3	0	2	2	2	0	0	0	1	0	0	0	0	0
	Gileston Re-alignment	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	B4265 St Athan Junction	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DTC Main Works	0	0	0	0	0	10	10	15	20	25	25	25	25	30	40	40	40	40	40	30	30	20	10	10
	SFA - Picketston & Tremains	0	0	0	0	0	0	0	0	0	4	4	4	7	7	7	7	7	4	4	4	4	4	0	0
	SFA - Golf Course Site	0	0	0	0	0	0	0	0	0	2	2	2	3	3	3	3	3	2	2	2	2	2	0	0
	ABP Phase 1	0	0	0	0	0	0	0	0	5	5	5	5	5	5	5	5	5	5	5	5	5	4	3	3
	Total	0	3	3	3	3	13	15	21	31	39	39	36	42	47	57	55	55	51	52	41	41	30	13	13
	Total Workforce, Staff & Visitors	0	42	174	220	153	277	362	492	647	925	1194	1236	1522	1893	2190	2175	2138	2121	1790	1667	1102	713	357	94

Appendix C: Estimated trips for construction site employees

		2009				2010				2011				2012				2013				2014			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
Total Workforce, Staff & Visitors		0	42	174	220	153	277	362	492	647	925	1194	1236	1522	1893	2190	2175	2138	2121	1790	1667	1102	713	357	94
Modal Split	%																								
Car	70%	0	30	122	154	108	194	254	345	453	648	836	866	1066	1326	1533	1523	1497	1485	1253	1167	772	500	250	66
Contractor Bus/Van	25%	0	11	44	55	39	70	91	123	162	232	299	309	381	474	548	544	535	531	448	417	276	179	90	24
Public Trans	5%	0	3	9	11	8	14	19	25	33	47	60	62	77	95	110	109	107	107	90	84	56	36	18	5
Trips (No's sharing)	No's																								
Car	1.4	0	22	88	110	78	139	182	247	324	463	598	619	762	948	1095	1088	1070	1061	895	834	552	358	179	48
Contractor Bus/Van	3.5	0	4	13	16	12	20	26	36	47	67	86	89	109	136	157	156	153	152	128	120	79	52	26	7
Public Trans	8	0	1	2	2	1	2	3	4	5	6	8	8	10	12	14	14	14	14	12	11	7	5	3	1
Total Trips		0	32	108	133	95	164	216	292	381	541	695	719	885	1101	1270	1263	1240	1231	1039	968	641	419	212	62

Appendix D: Average one way quarterly deliveries

	2009				2010				2011				2012				2013				2014			
Average 1 way HGV Deliveries	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
4SoTT/Utilities/Demolition	0	4	20	24	20	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NAR & EBR	0	0	0	0	0	0	5	25	13	35	13	0	2	20	28	11	0	0	18	0	0	0	0	0
Gileston Re-alignment	0	0	0	0	0	0	15	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B4265 St Athan Junction	0	0	0	0	0	0	0	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DTC Main Works	0	0	0	0	0	0	9	38	43	56	56	65	81	98	106	123	121	106	78	54	30	26	6	1
SFA - Picketston & Tremains	0	0	0	0	0	0	0	0	0	14	21	21	21	35	42	42	42	28	21	21	21	7	0	0
SFA - Golf Course Site	0	0	0	0	0	0	0	0	0	6	9	9	9	15	18	18	18	12	9	9	9	3	0	0
ABP - Phase 1	0	0	0	0	0	0	0	0	10	15	15	15	15	22	25	25	25	25	22	15	15	15	15	15
Total	0	4	20	24	20	14	29	91	94	126	114	110	128	190	219	219	206	171	148	99	75	51	21	16
LGV Deliveries																								
4SoTT/Utilities/Demolition	0	3	14	16	14	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NAR & EBR	0	0	0	0	0	0	3	17	9	24	9	0	2	14	20	8	0	0	12	0	0	0	0	0
Gileston Re-alignment	0	0	0	0	0	0	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B4265 St Athan Junction	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DTC Main Works	0	0	0	0	0	0	7	26	29	38	39	44	54	66	71	83	81	71	52	37	20	18	4	1
SFA - Picketston & Tremains	0	0	0	0	0	0	0	0	0	14	14	14	14	28	28	28	28	21	14	14	14	7	0	0
SFA - Golf Course Site	0	0	0	0	0	0	0	0	0	6	6	6	6	12	12	12	12	9	6	6	6	3	0	0
ABP - Phase 1	0	0	0	0	0	0	0	0	7	10	10	10	10	15	17	17	17	17	15	10	10	10	10	10
Total	0	3	14	16	14	10	16	52	54	92	78	74	86	135	148	148	138	118	99	67	50	38	14	11
Total HGV & LGV	0	7	34	40	34	24	45	143	148	218	192	184	214	325	367	367	344	289	247	166	125	89	35	27

Appendix E: Proposed Construction Routes



Access from the West

- A48 Bridgend
- B4265 to Boverton

Access from the North

- A48 Cowbridge
- B4270 to Llantwit Major By-pass
- B4265 to Boverton
- Eglwys Brewis Road / Northern Access Road

Access from the East

- M4 Junction 33
- A4232 to Culverhouse Cross
- Culverhouse Cross to A48
- A48 to A4226
- A4226 - B4265 to Boverton
- Eglwys Brewis Road / Northern Access Road

Access from the East

- M4 Junction 33
- A4232 to Culverhouse Cross
- A4050/A4226
- B4265 to Boverton
- Eglwys Brewis Road / Northern Access Road



metrix LAING O'ROURKE

St.Athan

Title Alternative Access
Routes to Site

SA-C0xxx-PS-xxx-LO-x-0069
rev P01

Date - 22nd April 2009

Appendix F: Accident cluster locations

1. Waycock Roundabout (9 accidents) – all accidents were caused by driver error.
2. A4226 outside Cwm Ciddy Tavern (Motel) and Ty-newydd Farm (7 accidents) – all accidents were caused by driver error. Six collisions occurred because of vehicles using motel and farm access points.
3. A4226 Port Road adjacent to lay-by (5 accidents – 2 serious) – all accidents were caused by driver error. Both serious accidents were caused by vehicles travelling in the wrong carriageway, one was overtaking whilst the other was dazzled by the sun. At this point the road appears very wide due a lay-by on the westbound carriageway which may tempt reckless behaviour.
4. A4226 outside farm entrance (5 accidents) – four of the accidents were caused by drivers failing to stop in time and so shunting the vehicle in front, possibly as a result of vehicles turning into farm access.
5. A4226/B4265 roundabout (4 accidents) - all accidents were caused by driver error but with no pattern. One driver exceeding the speed limit took a bend on the wrong side of the road, one driver was dazzled by the sun, one under-age driver had taken a vehicle without consent and one failed to stop at the roundabout.
6. B4265/Fonmon Road junction (4 accidents – 1 fatal) – all accidents were caused by driver error. Three drivers failed to stop their vehicles in time. One fatal collision was due to the driver failing to judge the speed of a motorbike.
7. B4265 T-junction off to East Aberthaw (8 accidents) – all accidents were caused by driver error, six involving right turn manoeuvres and one young driver with two child passengers lost control of the vehicle.
8. T-junction off B4265 to Llancadle (5 accidents – 1 fatal) – three accidents were caused by drivers failing to stop, one driver lost control of the vehicle and one fatal injury was caused by a pedestrian running across the road.
9. B4265/Gileston Road cross-roads (7 accidents) – all accidents were caused by driver error involving right turn manoeuvres. The proximity of this junction to the development will result in the need for it to accommodate an increase in traffic flow.
10. Signalised cross-roads at Boverton (8 accidents) – six accidents were caused by driver error associated with signalised movements and two accidents resulted in pedestrians being struck, one of which was fatal.
11. B4265/Llanmaes Road signalised cross-roads (5 accidents) – all accidents were caused by driver error involving right turn manoeuvres.
12. B4270/minor road T-junction (4 accidents) – all accidents were caused by driver error.
13. B4270/minor road T-junction leading to business park road (4 accidents) – three accidents caused by driver error, one skidding and another losing control. Fourth accident caused by vehicle fault, again driver lost control of the vehicle.

-
14. B4270/minor road T-junction leading to business park (3 accidents) all accidents caused by driver error.
 15. A48/B4268 staggered T-junctions (4 accidents) - all accidents were caused by driver error.
 16. A48/A4226 staggered T-junctions (11 accidents) – all accidents were caused by driver error.
 17. St. Athan Road (3 accidents) – all accidents were caused by driver error. This narrow single carriage road is unsuitable for heavy traffic flows.
 18. A4222 (10 accidents) – seven accidents involved a pedestrian, six of which results in a pedestrian injury, one accident was a cyclist error and one accident was caused by a driver having a blackout/falling asleep. This is a very busy section of the A4222 in Cowbridge centre with several junctions and pedestrian movements.
 19. B4270/Church Road cross-roads (3 accidents) – all accidents were partly due to visual obstructions at the junction.
 20. Cowbridge Road (4 accidents) – all accidents were caused by driver error but with no particular pattern.

Appendix G: Forecast cumulative costs for providing a Travel Plan Co-ordinator

Year	Month	Cumulative Forecast Cost	Days per month	Cost per day	Cost per month	Cum. Cost
2009	Jan	£0.00	0	£386.00	£0.00	£0.00
	Feb	£0.00	0	£386.00	£0.00	£0.00
	Mar	£0.00	0	£386.00	£0.00	£0.00
	Apr	£0.00	0	£386.00	£0.00	£0.00
	May	£0.00	0	£386.00	£0.00	£0.00
	Jun	£1,158.00	3	£386.00	£1,158.00	£1,158.00
	Jul	£2,316.00	3	£386.00	£1,158.00	£2,316.00
	Aug	£3,474.00	3	£386.00	£1,158.00	£3,474.00
	Sep	£4,632.00	3	£386.00	£1,158.00	£4,632.00
	Oct	£5,790.00	3	£386.00	£1,158.00	£5,790.00
	Nov	£6,948.00	3	£386.00	£1,158.00	£6,948.00
	Dec	£8,106.00	3	£386.00	£1,158.00	£8,106.00
2010	Jan	£8,898.00	2	£396.00	£792.00	£8,898.00
	Feb	£9,690.00	2	£396.00	£792.00	£9,690.00
	Mar	£10,482.00	2	£396.00	£792.00	£10,482.00
	Apr	£11,274.00	2	£396.00	£792.00	£11,274.00
	May	£12,066.00	2	£396.00	£792.00	£12,066.00
	Jun	£12,858.00	2	£396.00	£792.00	£12,858.00
	Jul	£13,650.00	2	£396.00	£792.00	£13,650.00
	Aug	£14,442.00	2	£396.00	£792.00	£14,442.00
	Sep	£15,234.00	2	£396.00	£792.00	£15,234.00
	Oct	£16,026.00	2	£396.00	£792.00	£16,026.00
	Nov	£16,818.00	2	£396.00	£792.00	£16,818.00
	Dec	£17,610.00	2	£396.00	£792.00	£17,610.00
2011	Jan	£18,422.00	2	£406.00	£812.00	£18,422.00
	Feb	£19,234.00	2	£406.00	£812.00	£19,234.00
	Mar	£20,046.00	2	£406.00	£812.00	£20,046.00
	Apr	£20,858.00	2	£406.00	£812.00	£20,858.00
	May	£21,670.00	2	£406.00	£812.00	£21,670.00
	Jun	£22,482.00	2	£406.00	£812.00	£22,482.00
	Jul	£23,294.00	2	£406.00	£812.00	£23,294.00
	Aug	£24,106.00	2	£406.00	£812.00	£24,106.00
	Sep	£24,918.00	2	£406.00	£812.00	£24,918.00
	Oct	£25,730.00	2	£406.00	£812.00	£25,730.00
	Nov	£26,542.00	2	£406.00	£812.00	£26,542.00
	Dec	£27,354.00	2	£406.00	£812.00	£27,354.00
2012	Jan	£28,186.00	2	£416.00	£832.00	£28,186.00
	Feb	£29,018.00	2	£416.00	£832.00	£29,018.00
	Mar	£29,850.00	2	£416.00	£832.00	£29,850.00
	Apr	£30,682.00	2	£416.00	£832.00	£30,682.00
	May	£31,514.00	2	£416.00	£832.00	£31,514.00
	Jun	£32,346.00	2	£416.00	£832.00	£32,346.00
	Jul	£33,178.00	2	£416.00	£832.00	£33,178.00
	Aug	£34,010.00	2	£416.00	£832.00	£34,010.00
	Sep	£34,842.00	2	£416.00	£832.00	£34,842.00
	Oct	£35,674.00	2	£416.00	£832.00	£35,674.00
	Nov	£36,506.00	2	£416.00	£832.00	£36,506.00

	Dec	£37,338.00	2	£416.00	£832.00	£37,338.00
2013	Jan	£38,190.00	2	£426.00	£852.00	£38,190.00
	Feb	£39,042.00	2	£426.00	£852.00	£39,042.00
	Mar	£39,894.00	2	£426.00	£852.00	£39,894.00
	Apr	£40,746.00	2	£426.00	£852.00	£40,746.00
	May	£41,598.00	2	£426.00	£852.00	£41,598.00
	Jun	£42,450.00	2	£426.00	£852.00	£42,450.00
	Jul	£43,302.00	2	£426.00	£852.00	£43,302.00
	Aug	£44,154.00	2	£426.00	£852.00	£44,154.00
	Sep	£45,006.00	2	£426.00	£852.00	£45,006.00
	Oct	£45,858.00	2	£426.00	£852.00	£45,858.00
	Nov	£46,710.00	2	£426.00	£852.00	£46,710.00
	Dec	£47,562.00	2	£426.00	£852.00	£47,562.00
2014	Jan	£48,414.00	2	£426.00	£852.00	£48,414.00
	Feb	£49,266.00	2	£426.00	£852.00	£49,266.00
	Mar	£50,118.00	2	£426.00	£852.00	£50,118.00
	Apr	£50,970.00	2	£426.00	£852.00	£50,970.00
	May	£51,822.00	2	£426.00	£852.00	£51,822.00
	Jun	£52,674.00	2	£426.00	£852.00	£52,674.00
	Jul	£53,526.00	2	£426.00	£852.00	£53,526.00
	Aug	£54,378.00	2	£426.00	£852.00	£54,378.00
	Sep	£55,230.00	2	£426.00	£852.00	£55,230.00
	Oct	£56,082.00	2	£426.00	£852.00	£56,082.00
	Nov	£56,934.00	2	£426.00	£852.00	£56,934.00
	Dec	£57,786.00	2	£426.00	£852.00	£57,786.00

Appendix H: Sample travel to work survey

Section 1 Personal Information

1. Name _____
2. Your home postcode _____
3. What hours to you normally work? _____
4. If you got up one day and found that your car couldn't start, how would you get to work? **Please tick one**

I wouldn't go, I'd phone up and book the day off	☐	I'd ask a work colleague to give me a lift	☐
I'd work from home	☐	I'd walk	☐
I'd call a breakdown company and go to work later	☐	I'd use another car	☐
I'd ride my motorcycle/scooter	☐	I'd use public transport	☐
I'd ask a friend/relative to give me a lift	☐	I'd take a taxi	☐
I'd cycle	☐	Other	☐

Section 2 Current travel patterns

- 5 How do you normally travel to work? **Please tick one**

By car, as a passenger	☐	By walking	☐
By car, as a driver	☐	By cycling	☐
By train	☐	By public transport	☐

6. On average how long does it take you to travel to work? **Please tick one**

Up to 10 minutes	☐	Between 30 and 45 minutes	☐
Between 10 and 20 minutes	☐	Between 45 minutes and an hour	☐
Between 20 and 30 minutes	☐	Over an hour	☐

7. On average how far do you travel to get to work? **Please tick one**

Up to 1 mile	☐	Between 4 and 10 miles	☐
Between 1 and 2 miles	☐	Between 10 and 20 miles	☐
Between 2 and 4 miles	☐	Over 20 miles	☐

8. In an ideal world would you like to travel in another way? YES NO

9. In an ideal world, how would you prefer to travel to work? **Please tick one**

By car, as a passenger	☐	By walking	☐
By car, as a driver	☐	By cycling	☐
By train	☐	By public transport	☐

Section 3 Incentives to change travel patterns

10. Would you be willing to car share? YES NO ALREADY DO

11. What would encourage you to car share, if you already car share what would encourage you to car share on a more regular basis? **Please tick two**

Help finding a suitable car share partner		Preferential parking spaces	
A guaranteed lift home		More information on the savings I can make	
Nothing			

12. What would encourage you to use public transport, if you already use public transport, what would encourage you to use it more often? **Please tick two**

More frequent bus services		Discounted tickets	
More direct bus services		Interest free loan to buy a season ticket	
Improved public transport information		Nothing	

13. Do you live on a bus route that can take you directly to work? YES NO

14. What would encourage you to cycle to work, if you already cycle, what would encourage you to do so on a more regular basis? **Please tick two**

Safer routes from home to work		More people to cycle with	
Adequate shower and changing facilities		Interest free loans for cycle purchase	
Secure cycle parking		Nothing	
Discounts on cycle equipment			

15. What would encourage you to walk to work, if you already walk, what would encourage you to do so on a more regular basis? **Please tick two**

Safer routes from home to work		Information on the health benefits	
Adequate shower and changing facilities		Safer places to cross the road	
More people to walk with		Nothing	

THANK YOU