



**Vale of Glamorgan Council**

**A4226 Sycamore Cross to Weycock Cross-Five Mile Lane Road Improvements.**

**Business Case Report to Vale of Glamorgan Council Cabinet Meeting.**

**August 2015.**

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## **1. Introduction - A4226 Five Mile Road Improvements**

This document represents the Interim Business Case for A4226 Sycamore Cross to Weycock Cross-Five Mile Lane Road Improvements

The purpose of this Interim Business Case is to justify the commitment of funding from Welsh Government for the scheme and to set out the strategic, economic, commercial, financial and management cases for the scheme in order that the Vale of Glamorgan Council can authorise proceeding with the scheme.

A Detailed Business Case will be provided later in the programme period once the scheme has developed further and when the scheme's tender prices are known.

## **2. The Issue**

The A4226 (Five Mile Lane) connects Barry at the Weycock Cross roundabout with the Sycamore Cross junction on the A48, and comprises an essential part of the highway network leading to the St Athan and Cardiff Airport Enterprise Zone. The proposed Five Mile Lane Highway Improvements stem from the strategic plans of both the Welsh Government and the Vale of Glamorgan Council as set in this document. The Council has previously received a Principal Road Grant from the Welsh Government to advance the Five Mile Lane Highway Improvement Scheme, and to date this work has involved the signalisation of Sycamore Cross junction, as well as initial design and feasibility work together with various environmental assessments relating to the larger scheme proposal now under consideration. Additional funding is required to complete the development and implementation of this scheme, with Welsh Government having announced their commitment to the scheme in July 2013.

## **3. Background**

Five Mile Lane had historically acquired a reputation for having a poor safety record, particularly in the period between 2005 and 2009. During this period there were a number of serious accidents and 2 fatalities. In response the Vale of Glamorgan Council undertook the introduction of a number of safety measures including a 40 mph speed limit with a static speed camera, resurfacing, improved signage and solar powered road studs.

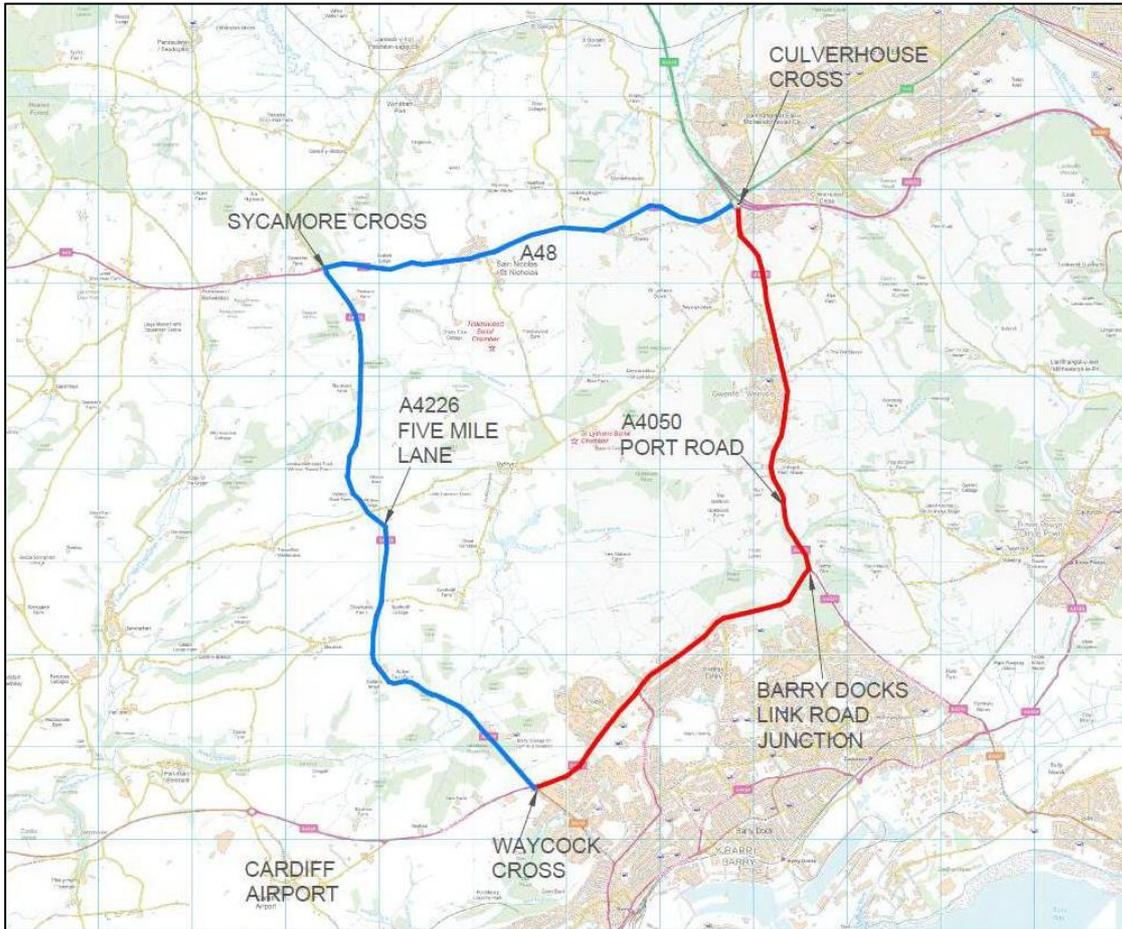


Figure 1. Overview of Five Mile Lane.

In 2006 the Welsh Government made an Order to Trunk the A48 from Culverhouse Cross to Sycamore, Five Mile lane to Waycock Cross and Port Road West to the airport. Following a Public Inquiry this order was rejected by the Inspector in 2007. Following that decision the Welsh Government made funds available to the Vale of Glamorgan Council to undertake studies in possible further safety improvements to Five Mile lane and its principal junctions. Funding was provided from 2009-2011 and the work culminated in the Scheme Assessment report of 2010.

The WelTAG Stage 1 Report recommended a number of options and a scheme to signalise the Sycamore Cross junction was undertaken in 2012/13. The accident record from 2009 to 2013 indicates 13 slight personal injury accidents and only 1 serious personal injury accident. There have been no fatalities since 2006. The WelTAG study also identified preferred options for the improvements to Five Mile Lane, which have been used as a basis for developing the design proposed as part of this, more recent improvement

scheme. The renewed energy for the scheme has stemmed from the development plans for the Enterprise Zones at St Athan and Cardiff Airport, which are currently being developed. This has generated the need to make improvements to the network in the area, improving its quality, reliability and resilience

#### **4. Key Elements of the Scheme/descriptions & plans**

The scheme consists of approximately 4.0km of offline highway improvement to the east of the existing alignment of the A4226 (Five Mile Lane). The new alignment starts in the vicinity on the Amelia Trust Farm and joins the existing Five Mile Lane in the vicinity of the existing River Weycock Bridge and the Welsh Hawking Centre. The extent of the scheme can be seen on Drawing No 1, 2 and 3 as attached at Appendix A.

The carriageway width of the proposed alignment will be 7.3m wide with 1.0m hard strips. This will provide sufficient width for the route to be used regularly by strategic traffic travelling to the Enterprise Zones at St Athan and Cardiff Airport.

The design speed for the road is 100KPH, with an intended speed limit on completion of 60MPH for the majority of the route. A lower road speed will be retained at the southern end of the scheme on the approach to the Weycock Cross junction.

All existing east-west connections will be maintained following completion of the scheme and have been considered in the junction strategy. In addition, there will be at least two junctions serving the settlements to the west of the new alignment and at least one junction serving settlements to the east of the new alignment.

#### **5. Vision and Objectives**

In July 2013 the Welsh Government Transport Minister announced the intention to fund improvement to Five Mile Lane, as a means of improving access to the St Athan and Cardiff Airport Enterprise Zones.

Furthermore, the Welsh Government confirmed the commencement of the scheme preparatory work via the appointment of Parsons Brinckerhoff as design consultancy for the scheme development.

In addition, the Vale of Glamorgan included the commitment to improve the access road within its draft Local Development Plan as published in October 2013.

The overall aim of the scheme is for the complete road to support the future land allocation and growth at both Enterprise Zones as identified in the Vale of Glamorgan's Local Development Plan.

The scheme Transport Planning Objectives are:

- Objective 1 Improve Network Resilience across Study Area
- Objective 2 Reduce Journey Time variability from Culverhouse Cross interchange to Cardiff Airport Enterprise Zone
- Objective 3 Reduce Journey Time variability from Culverhouse Cross interchange to St Athan Enterprise Zone
- Objective 4 Discourage strategic traffic for utilising inappropriate routes to gain access to St Athan and Cardiff Airport Enterprise Zones
- Objective 5 Maintain access to local amenities and reduce community severance
- Objective 6 Improve access to St Athan and Cardiff Airport Enterprise Zones for Public Transport and Non Motorised Users

## 6. Introduction to the 5 case model

The Better Business Case (BBC) approach to planning spending proposals and enabling effective business decisions is formally accredited and accepted international best practice.

This involves:

Establishing a clear need for intervention – a case for change

Setting clear objectives – what we want to achieve from our investments

Considering a wide range of potential solutions – ensuring an optimal balance of benefits, cost and risk

Putting the arrangements in place to successfully deliver the proposal

The Five Case Model, as set out in the Treasury Green Book provides the framework and tools to enable effective decision making when considering the costs and risks associated with investment.

### **Why is the business case important?**

Policies, strategies, programmes and projects will only achieve their spending objectives and deliver benefits if they have been scoped robustly and planned realistically from the outset and the associated risks taken into account.

The business case, both as a product and a process, provides decision makers, stakeholders and the public with a management tool for evidence based and transparent decision making and a framework for the delivery, management and performance monitoring of the resultant scheme.

The business case in support of a new policy, new strategy, new programme or new project must evidence :

That the intervention is supported by a compelling **case for change** that provides holistic fit with other parts of the organisation and public sector– the “strategic case”;

That the intervention represent best **public value** – the “economic case”;

That the proposed Deal is attractive to the market place, can be procured and is **commercially viable** – the “commercial case”;

That the proposed spend is **affordable** – the “financial case”;

That what is required from all parties is **achievable** – “the management case”.

## 7. Further information

This Outline Business Case summarises the outputs of a range of studies and other documents prepared as part of the development of the project and to provide evidence, if required, for any Public Inquiry associated with the required land acquisition. We would encourage appraisers to review the following documents which have been used as background documents in support of this business case and the approach taken:

Full scheme Environmental Statement-Airport Access Road Phase 1.  
C.Blandford ( 1988)  
Cardiff Airport Access Road, Environmental Assessment Scoping Report.Arup (2005)  
Cardiff Airport Access Improvement Study. Arup (2006)  
Cardiff Airport and Culverhouse Cross Improvements Planning Stage Report. Arup (2008)  
Cardiff Airport and Culverhouse Cross Access Improvements Report. Public participation Report. Ove Arup (2008)  
Five Mile Lane Environmental Assessment. Soltys Brewster (2008)  
WelTAG Appraisal report Stage 1. Arup (2009)  
WelTAG Appraisal report Stage 2. Arup (2009)  
Five Mile lane interim scheme Assessment report. Soltys Brewster (2010)  
Five Mile Lane ISAR Vol 1 Report (2010)  
Five Mile Lane ISAR Vol 1 addendums (2010)  
Five Mile Lane ISAR Vol 2 Figures Parts 1-4 (2010)  
Five Mile Lane Weltag Appraisal Report. Planning Stage 1. Arup (2011)  
Vale of Glamorgan Deposit Local Development Plan 2011-2020  
Five Mile Lane Public Consultation Analysis 2010  
LDP supporting document – Highway Impact Assessment  
LDP supporting document – Employment Land and Premises  
Welsh Transport Planning and Appraisal Guidance - WelTAG

## 8. The Strategic Case

### Introduction

The Strategic Case demonstrates that the spending proposal provides business synergy and strategic fit and is predicated upon a robust and evidence based case for change. This includes the rationale of why intervention is required, as well as a clear definition of outcomes and the potential scope for what is to be achieved.

This strategic case requires the spending authority to demonstrate how the spending proposal *fits* in relation to national, regional and local policies, strategies and plans and furthers the required outcomes.

It also requires the spending authority to demonstrate that the spending proposal has clear and concise spending objectives, which are **s**pecific, **m**easurable, **a**chievable, **r**elevant and **t**ime constrained (SMART).

The case for change must be based on a rigorous assessment of the issues (business needs) associated with the status quo (existing arrangements) and the potential scope of the proposed spend in relation to the anticipated benefits and potential risks.

### 9. Investment Objectives.

The rationale for intervention in the form of this scheme is strong in strategic terms and the public sector's commitment to the project is well established, and has been for a number of years. At a national, regional and local level there is a need to improve infrastructure to drive the objectives of both the Welsh Government and the Vale of Glamorgan Council as set out later in this document.

At a strategic level the road scheme seeks to:

- Provide strategic and direct access to the St Athan and Cardiff Airport Enterprise Zone in support of the Welsh Government's policy for job creation and employment.
- Provide for improved road infrastructure to service traffic needs accessing or commuting through the area of Barry and the areas west of Barry comprising, but not limited to, Rhoose, St Athan, Llantwit Major as well as the St Athan-Cardiff Airport Enterprise Zone;
- Reduce the risk faced by users of this route in its current form due to its geometry and limited driver visibility and in recognition that the existing proportion of HGV's is expected to increase as Enterprise Zone activity develops.
- Provide a safer route for non motorised road users in support of the provisions of the Active Travel Bill.

- Support the on-going regeneration of Barry and to ensure its status as a visitor destination of regional and national significance is promoted and enhanced;
- Provide network resilience to cater for additional demand which might result from the development on or in proximity to the Port Road in Barry;
- Provide network resilience to cater for alternative route planning in the light of proposals to develop modal shift options which utilise the Port Road and to allow for segregation of traffic accessing the road infrastructure at the local and more strategic levels;
- Support the proposals for land allocation in this area in the emerging Local Development Plan for the Vale of Glamorgan. In particular the status of the St Athan and Cardiff Airport Enterprise Zone and the significant employment allocation situated there. The residential land allocations that will directly access the Port Road at Culverhouse Cross and Wenvoe will also impact upon this need.

The Scheme proposed is the outcome of a review of historical assessments of the Five Mile lane and will utilise a strategic WelTAG approach as advised by the Welsh Government . The scheme has benefitted from a funding commitment by the Welsh Government which would see investment in the capital works of the scheme delivery in 2016-2018.

The project delivers key benefits that will be detailed in the Full Business Case to be provided later in the delivery process and following the completion of detailed designs and full cost estimating.

## **10. The Case for Change - Existing Situation**

Historical proposals for improvements to the A4226 Five Mile Lane have been both numerous and persistent and notwithstanding the recent investment in the Sycamore Cross junction the case to improve this strategic road link remains valid.

The Wales Transport Strategy sets out long term outcomes to bring forward social, economic and environmental improvements. Transport is seen as supporting the economy by connecting businesses with supplier and customers, and enabling people to travel to work. It is critical for both manufacturing and serviced based industries, although their needs vary. Congestion costs businesses many millions of pounds a year and improved transport, especially its reliability, is cited consistently by Welsh businesses as one of their top priorities.

An efficient and effective transport system helps increase the number of people wanting to live, work and spend leisure time in Wales, which in turn builds strong and vibrant local communities.

Effective movement of freight also makes wales and attractive place to do business. Freight logistics accounts for some six per cent of employment in Wales and the industry contributes approximately £2.5 billion to the Welsh

economy ( Wales Transport Strategy figures), making it a vital part of wealth creation.

The A4226 Five Mile Lane is seen a vital element of the regional road network and the proposal to improve it as based upon the strategic economic need as set out at national and local level.

The Five Mile Lane link has been subject to review of improvements for over fifteen years. Problem identification exercises have been undertaken through many separate studies, relating specifically to schemes involving Five Mile Lane (A4226) including:

- Airport Access Road Phase 1, undertaken by Chris Blandford Associates for Vale of Glamorgan Council, June 1998
- Five Mile Lane Stage 1 Environmental Assessment, undertaken by Soltys Brewster for Vale of Glamorgan Council, 2008
- Cardiff International Airport and Culverhouse Cross Access Improvements Study, undertaken by Arup by Welsh Government 2009
- Five Mile Lane Improvements, undertaken by Arup for Welsh Government, 2010
- A4226 Five Mile Lane, Planning and WelTAG Stage 1, undertaken by Arup for Vale of Glamorgan Council, 2012
- Five Mile Lane Constraints Report, undertaken by Vale of Glamorgan, 2013

The key problems identified from these studies include:

- A perception of poor safety – this is irrespective of the improvement to the accident record since 2011, which included the introduction of improvements including a speed camera and the reduction of the speed limit;
- Safety issues related to the implementation of maintenance and network management on the A4226 itself;
- Poor horizontal and vertical alignment with inadequate visibility at both junctions and on the existing mainline. This has the potential to result in increased incidents. The geometry is sub-standard when compared to its usage (based on DMRB standards);
- Slow moving vehicles use this link which results in driver frustration, as there is no opportunity for overtaking;
- Poor drainage, resulting in accelerated degradation of the surfacing materials (which are subsequently difficult to replace) and cause dangerous driving conditions;
- The need to ensure access for local land use and local attractions;
- An unsafe environment for NMU access;
- Journey times between the trunk road network and Weycock Cross are variable, both this route and its alternative (Port Road A4050) are subject to this variability;
- The route from Culverhouse Cross to Weycock Cross via Five Mile Lane contains 3 traffic signal controlled junctions, 1 signalised pedestrian crossing and no roundabouts along the route; the alternative route via A4050 Port Road contains 4 traffic signal controlled junctions, 3 signalised pedestrian crossings and 7 roundabouts, therefore Port Road has a greater potential for intermittent traffic flow;

A lack of resilience on the local road network, in the event of incidents the A4226 is not a favourable alternative route due to the constraints of its geometry

## **11. What the Scheme will Deliver**

The scheme will improve the present road to modern DMRB highway standards, addressing poor visibility, curves that are too tight and narrow width. This will be done by building a new section of offline highway which ties in at either end of the existing Five Mile Lane between the roundabout at Weycock Cross and the new junction at Sycamore Cross. This will:

- Improve strategic access for HGV and development traffic to the St Athan and Cardiff Airport Enterprise Zones;
- Make cycling and walking safer - a safer environment on the new road and fewer vehicles on the bypassed road (that will have a lower speed restriction);
- Improve access for regional and local businesses – better access to the M4 and markets and more liable journey times for customers and freight;
- Improve conditions for private road users – safer and more reliable journeys;
- Greater resilience on the network by providing a more appropriate alternative route to the Port Road Link;
- Improving the safety aspects for highway maintenance on this strategic route;
- By straightening and widening Five Mile Lane, it will provide a higher standard, more free-flowing alternative to Port Road;
- Improving the perceived safety of this link for motorised and non-motorised users;
- Provide community benefits by providing construction work locally and potential training opportunities.

## **12. Policy review.**

This Interim Business case document will reference policy support as set out at both local and national level and to include:

The Environment Strategy for Wales (2006)  
Programme for Government 2011-2016  
National Transport Plan ( 2010)  
Wales Infrastructure Investment Plan (WIIP)  
People, Places, Futures-The Wales Spatial Plan (2008)  
Economic Renewal: A New Direction (2010)  
One Wales: Connecting the Nation – The Wales Transport Strategy (2008)  
Creating an Active Wales (2009)  
Regional Transport Plan (2010) Sewta  
The Vale of Glamorgan Community Strategy  
Corporate Plan (2013-2017)

## The Vale of Glamorgan Deposit Local Development Plan

### *Environment Strategy for Wales (2006)*

The Environment Strategy for Wales outlines the Welsh Government's long-term strategy for the environment of Wales, setting out the strategic direction for the next 20 years. The purpose of the Strategy is to provide a framework within which to achieve an environment that is clean, healthy, biologically diverse and valued by the people of Wales. The Welsh Government wish to see the environment thriving and contributing to the economic and social well-being and health of all of the people of Wales

The Welsh Government's Programme for Government 2011-2016 identifies as a key action, the need to deliver the priorities of the National Transport Plan for Wales. The National Transport Plan sets out in detail how the Welsh Government proposes to deliver the Wales Transport Strategy 'One Wales: Connecting the Nation' over the next 5 years. The National Transport Plan builds on previous plans, adding and integrating public and community transport, walking and cycling so that investments help to deliver 'One Wales'. The National Transport Plan sits alongside the Regional Transport Plans in delivering the Wales Transport Strategy to ensure consistency of service provision across the transport network. Together, the national and regional plans seek to strengthen local service delivery and improve access to essential services such as health and education.

The Wales Infrastructure Investment Plan (WIIP) sets out 'improving transport links, particularly East-West transport links' as a high level investment priority and specifically refers to'

The Wales Spatial Plan (WSP) provides a framework for the future spatial development of Wales. The Vale of Glamorgan, along with the neighbouring authorities of Cardiff, Bridgend, Merthyr Tydfil, Caerphilly and Rhondda Cynon Taf, is identified as part of the "South East Wales Capital Network" Region. The Vision for the Capital Region is "*An innovative skilled area offering a high quality of life – international yet distinctively Welsh. It will compete internationally by increasing its global viability through stronger links between the Valleys and the coast and the UK and Europe, helping spread prosperity within the area and benefiting other parts of Wales*". The WSP proposes distinct approaches for the three areas that make up the Capital Region. The three areas are:

- City/Coast;
- Heads of the Valleys Plus; and
- Connections Corridor

The WSP identifies 14 hub settlements which it sees as vital to the success of the city region including the settlement of Barry. In addition to the strategy areas and hub settlements the document also identifies three Strategic Opportunity Areas (SOA). The SOAs are centred around:

- St Athan, Vale of Glamorgan
- Llantrisant and North West Cardiff
- The Heads of the Valleys Road (A465).

SOAs offer the potential for development to take place in a sustainable way, which will benefit the region as a whole. The identification of a SOA at St Athan and to the north of the Vale of Glamorgan around Llantrisant and North West Cardiff means that the area and the LDP have a crucial role to play in the development and economic growth of the South East Wales region.

### ***Economic Renewal: A New Direction (2010)***

Economic Renewal: A New Direction is the Welsh Government's Strategic Framework for economic development. The Strategy sets out a vision for making Wales 'one of the best places in the world to live and to work', and outlines the Welsh Government's five priorities, which are: Investing in high quality sustainable infrastructure; making Wales a more attractive place to do business; broadening and deepening the skills base; encouraging innovation; and targeting support for business.

### ***Wales: Connecting the Nation – The Wales Transport Strategy (2008)***

One Wales: Connecting the Nation – The Wales Transport Strategy is the Welsh Government's strategy for transport. It sets out how the Welsh Government intends to achieve certain social, economic and environmental outcomes.

Creating an Active Wales (2009) sets out the Welsh Government's plan to get more people engaged in regular physical activity and set targets to increase the average activity in adults and children by 2020. It aims to ensure that those who aren't physically active are encouraged and to further support those who already are. One of its main themes is to encourage the development of a sustainable environment which promotes and encourages physical activity rather than inhibiting it.

The project will be developed consistently with all current European, national and local overarching policies and strategies. The following tables show how the project will deliver against key transport strategies.

*Wales: Connecting the Nation – The Wales Transport Strategy (2008)*

<b>Key area</b>	<b>Benefits</b>
Reducing greenhouse gas emissions and other environmental impacts	More efficient road use – reduced emissions
Improving public transport and better integration between modes	Improved route for bus and coach travel Better access to Cardiff International Airport
Improving links and access between key settlements and sites across Wales and strategically important all-Wales links	Improved sub-regional access
Enhancing international connectivity	Improved link with the motorway network and Ten T routes
Increasing safety and security	Improved road safety

*Regional Transport Plan (2010)*

The project will deliver the following benefits against Regional Transport Plan priorities:

<b>Objectives</b>	<b>Benefits</b>
Improve access to services, facilities and employment, particularly by public transport, walking and cycling	Improved link for bus and coach services Improved conditions for walkers and cyclists
Provide a transport system that increases the use of sustainable modes of travel	Improved link for bus and coach services Improved connection between Cardiff International Airport and Cardiff Central Station Improved conditions for walkers and cyclists
Reduce the demand for travel	Neutral
Develop an efficient and reliable transport system with reduced levels of congestion and improved transport links within the Sewta region and to the rest of Wales, the UK and Europe	Improved transport link
Provide a transport system that encourages healthy and active life	Safer conditions will encourage walking and cycling

styles, is safer and supports local communities	
Reduce significantly the emission of greenhouse gases and air pollution from transportation	Lower emissions from a more efficient section of road
Ensure that land use development in south east Wales is supported by sustainable transport measures	Neutral
Make better use of the transport system	Improved corridor for bus and coach travel

### *Vale of Glamorgan Deposit Local Development Plan*

The Planning and Compulsory Purchase Act 2004 and the Town and Country Planning (Local Development Plan) (Wales) Regulations 2005, require the Vale of Glamorgan Council to prepare a Local Development Plan (LDP) for its administrative area, setting out the Council's strategy for future land use and development. It will become operative on the date it is adopted by the Council for the purposes of Section 38(6) of the Planning and Compulsory Purchase Act 2004, when it will replace the adopted Unitary Development Plan 1996-2011. Once formally adopted, the LDP will be used for consistent and rational decision-making during the Plan period to ensure the most efficient use of land and other limited resources, whilst at the same time promoting the regeneration and stimulation of the local economy for the benefit of the present and future population.

### *Local Development Plan Process*

The Delivery Agreement that has been approved by the Welsh Government contains a Community Involvement Scheme (CIS) which sets out the Council's approach to community and stakeholder involvement and engagement throughout the LDP process. The Delivery Agreement also includes a timetable for the production of the Plan which sets out the timescale for each stage in its preparation as well as the resources allocated to each stage. The LDP process has 8 distinct but interrelated stages. The Deposit LDP represents the completion of stage 4 in the process. In addition to fulfilling each of the stages in the plan making process the Council is also required to undertake a combined Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA) of the LDP. These are progressed as one integral assessment process, given that the SEA forms an integral part of the SA. This ensures that sustainability is at the heart of the plan preparation process and that the social, environmental and economic effects of proposals and policies are appraised to comply with the principles of sustainable development. The European Habitats Directive (92/43/EEC) also requires that a Habitat Regulation Assessment (HRA) is undertaken for the LDP. This

ensures that an appropriate assessment is undertaken of the impact of the Plan on European Designated Habitat Sites.

Further information in respect of the LDP process in the Vale of Glamorgan can be found in the Delivery Agreement and on the Council's web site at [www.valeofglamorgan.gov.uk/ldp](http://www.valeofglamorgan.gov.uk/ldp)

### *Structure of the Local Development Plan*

**Section 2** describes how the Plan takes into account relevant local, regional and national strategies, plans and programmes.

**Section 3** of the Plan identifies the key socio-economic and environmental issues in the Vale of Glamorgan. The issues have been identified through consultation and the analysis of the research contained in the LDP evidence base.

**Section 4** sets out the Council's Vision for the Vale of Glamorgan over the Plan period and provides a detailed framework of land use objectives. The role of the Vision is to clarify the core purpose of the Plan and provide a framework for developing policies. The Vision and Objectives of the Plan have therefore been developed to take into account the characteristics and key issues relevant to the Vale of Glamorgan.

The Strategy of the Plan is set out in **Section 5** and will guide development and use of land throughout the Plan period. This Strategy seeks to promote development in the South East Zone, an area that accommodates the main centres of population and urban settlements with a range of facilities and services accessible by a range of transport modes. Within the South East Zone, Barry is identified as a key settlement, providing opportunities for sustainable growth with a particular focus on the regeneration of Barry Waterfront and Barry Island. The zone also includes St. Athan, which is identified as a Strategic Opportunity Area, and the 'St Athan – Cardiff Airport Enterprise Zone', with a focus on the aerospace sector and investment in and around the land holdings of the Welsh Government and the Ministry of Defence. The Strategy also identifies Cardiff Airport as a focus for transport and employment investment. It also recognises the need for appropriate levels of growth and development in and around other sustainable settlements, which will support and enhance existing facilities and services as well as the wider rural areas of the Vale of Glamorgan.

Under the "Managing" section Policy SP7-transportation indicates:-

**Sustainable transport improvements that serve the economic, social and environmental needs of the Vale of Glamorgan and promote the objectives of the South east wales regional transport plan will be favoured. Key priorities for the delivery of strategic transportation infrastructure will be:**

### **3. Improvements to the A4226 between Waycock Cross, Barry and Sycamore Cross, A48( Five Mile Lane)**

The Welsh Government guide, Community Benefits: Delivering Maximum Value for the Welsh Pound, outlines good practice for ensuring community benefits are realised from public procurement. This document points towards the importance of training and recruitment opportunities benefitting the local community.

#### **Draft Local Transport Plan**

This Local Transport Plan (LTP) seeks to identify the sustainable transport measures required to ensure the Vale of Glamorgan Council adheres to current requirements and good practices to allow for a sustainable transport environment for the period 2015 to 2020 as well as looking forward to 2030... The LTP seeks ways to secure better conditions for pedestrians, cyclists and public transport users and to encourage a change in travel choices away from the single occupancy car. The LTP also seeks to tackle traffic congestion by securing improvements to the strategic highway corridors for commuters who may need to travel by car as well as providing better infrastructure for freight. It also addresses the key road safety priorities for the Vale.

As most journeys by car, particularly for shopping and school travel, are relatively short, better conditions for pedestrians and cyclists can lead to a reduction in car use. A reduction in car use can promote good health and well-being, reduce the negative impacts on the environment that car travel can bring, offer better access to services and facilities, which in turn can offer improved economic opportunities and reduce the potential for traffic accidents.

Sustainable transport infrastructure and services are therefore an important feature of modern day life and are increasingly being recognised by policy makers for the contributions that they can make to both national and policy objectives including reducing the negative impacts that cars have on the environment, reducing congestion, improving health and well-being, offering better access to employment, health, education and all other facilities, and reducing the risk of road accidents. Sustainable transport provision also offers the ability to achieve key local priorities across a range of strategy areas.

The LTP and its recommended policies and schemes have emerged during the preparation of the Deposit Local Development Plan (LDP) which is due to be adopted in 2016 with an expiry date of 2026. The transport policies recommended within this LTP, have been recommended within the Deposit LDP and have been subject to a Strategic Environmental Assessment as well as being assessed against current national, regional and local policies and legislation.

### **13. Fit with Other Strategies and Policies**

‘Planning and Working Together’: The Vale of Glamorgan Community

## Strategy 2011 to 2021

'Planning and Working Together' provides a vision for how the Vale of Glamorgan will look in the future and how that vision can be achieved. It seeks to ensure that organisations active in the Vale of Glamorgan are focussed on providing quality services to residents, visitors and businesses. The Community Strategy represents a coordinated approach to improving the quality of life in the Vale of Glamorgan.

The Strategy includes the Children and Young People's Plan, the Health, Social Care and Wellbeing Strategy, the Community Safety Strategy and the Older People's Strategy. The incorporation of key partnership strategies and plans into one strategy is intended to remove duplication and confusion across partnerships, improve public services and ensure an efficient use of resources.

The Local Development Plan will provide a framework that will play an important role in assisting in the delivery of many of these priority outcomes

## Vale of Glamorgan Council Corporate Plan (2013 – 2017)

The Corporate Plan details how the Council intends to help deliver the overarching Community Strategy vision for 2013 – 2017, provides a framework for Service Plans and underpins the Council's budget. It reflects the Council's aspiration to continually improve the services it delivers to the local community, and is founded on the following Core Values:

- **Delivering Good Services:** We believe in providing high quality, value-for-money services, and will always strive to do so while abiding by the other values. We will embrace innovative ideas so that services continue to deliver improved outcomes and meet the needs of our customers;
- **Transparency:** Council decisions will be open and transparent, and we will make changes to the way the Council works to accomplish this;
- **Engagement:** Before making significant decisions we will engage with the individuals, groups and communities who are affected by them;
- **Empowerment:** We will strive to enable all sections of the community, including those whose voices have not been heard in the past, to take control over their lives.

## Vale of Glamorgan Local Biodiversity Action Plan

The Vale of Glamorgan Local Biodiversity Action Plan (LBAP) recognises the diversity of plants and animals and the places they live (Habitats), identifying them as local priorities. The overall objective of the Vale of Glamorgan LBAP is to conserve and enhance the biodiversity of the Vale by:

- Protecting all habitats and species important at a local as well as national or international level for nature conservation;
- Promoting optimum management for these sites;

- Where appropriate, improving degraded habitats of creating new habitats; and creating a healthy environment in which the commoner species can thrive; and
- Creating public awareness of local biodiversity through education and information to all sector

#### 14. Economic Drivers.

St Athan – Cardiff Airport Enterprise Zone focuses on the aerospace and defence sector and offers a number of key development opportunities:

St Athan Aerospace Business Park has been a base for aerospace activity for more than half a century. The site has a newly resurfaced 1,800 metre plus runway with Cat 1 ILS and full airfield support.

Part of the site still retains a major Ministry of Defence (MOD) presence and as such, offers a secure, well-connected location for aerospace companies requiring airside access, conducting high security projects or seeking supply chain contracts directly from the MOD.

Accommodation is fit for a range of business purposes, civilian or military, such as Maintenance, Repair and Overhaul (MRO), manufacture, engine overhaul, Non-destructive Testing (NDT) and Research and Development (R&D). This includes hangars, workshops and other buildings that can be occupied straight away and are ideal for ancillary MRO services such as:

- seat overhaul
- wheel and brake overhaul
- aircraft recycling
- parts storage

Land is also available for new development with airside access.

Cardiff Airport is also part of the Enterprise Zone and offers air travel to a number of short and long haul destinations. The runway can accommodate all generations of aircraft and collaboration with Cardiff Enterprise Zone will ensure the airport has potential for future business travel growth. The Welsh Government are committed to airport infrastructure investment to accommodate the needs of future MRO operators on the site.

Land and facilities close to the airport are available for potential MRO and associated supply chain operators complementary to British Airways Maintenance, Cardiff (BAMC). The proximity of the airport and runway also present the ideal infrastructure for fast movement of aerospace parts, storage and salvage, cargo operations and freight-related businesses.

The Gateway Development zone includes potential development land close to Cardiff airport. Currently at a concept stage, there are plans to create an

'airport city', taking the form of a business destination for local and international businesses covering:

- Quality office accommodation
- Specialist education
- Training facilities and
- Leisure developments.

## **15. Summary of the Strategic Case**

The key points of the strategic case are as follows:

- The strategic case for the project is well established and the improvement to the A4226 is on the Welsh Government and Local Authority agenda;
- The improvements support a framework of policy which is aimed economic regeneration;
- The importance of the scheme as an enabler to the development of the Enterprise Zones at St Athan and Cardiff Airport are supported through local and national policy.
- The strategic case for the project is well established and the preferred scheme option will meet the strategic objectives.

## 16. The Economic Case

### Introduction

The economic case outlines the options which were considered for the scheme along with the value for money of the scheme.

### 17. Options Appraisal

Parsons Brinckerhoff has undertaken a WelTAG 1 Appraisal to establish which of the route corridors between Culverhouse Cross and the Enterprise Zones are best suited for improvement.

The outcome from this appraisal, which is a strategy level review of route corridors (namely the A4050 Port Road or the A48 / A4226 Five Mile Lane), is that the A48 / A4226 Five Mile Lane corridor is a more appropriate strategic route between the connecting nodes. This is mainly due to the urbanised nature of Port Road, and the likely increases in vehicle usage resulting from the economic development of the Enterprise Zones, not being compatible.

The report “Five Mile Lane Improvements” undertaken by Arup for Welsh Government (2010) undertook to produce designs in some detail for possible improvements to Five Mile Lane. The design and assessment work that was produced from this report has been used to develop the current proposals. This demonstrates Value for Money by making best use of the technical information which has been competently produced by others in recent years.

### 18. Scheme Objectives

The main over-arching scheme objectives for the Five Mile Lane Improvement, against which the options will be appraised are:

- Objective 1** Improve Network Resilience across Study Area  
–
- Objective 2** Reduce Journey Time variability from Culverhouse Cross interchange to Cardiff Airport Enterprise Zone  
–
- Objective 3** Reduce Journey Time variability from Culverhouse Cross interchange to St Athan Enterprise Zone  
–
- Objective 4** Discourage strategic traffic for utilising inappropriate routes to gain access to St Athan and Cardiff Airport Enterprise Zones  
–
- Objective 5** Maintain access to local amenities and reduce community severance  
–
- Objective 6** Improve access to St Athan and Cardiff Airport Enterprise Zones for Public Transport and Non Motorised Users  
–

## 19. Critical Success Factors

The Critical Success Factors used to assess the validity of options for improvements along the Five Mile Lane Improvements are:

- a) Strategic Fit – Alignment with Welsh Government priorities and strategies
- b) Value for Money – Optimising public value in terms of resultant spend
- c) Deliverability – affordability, achievability, political acceptability & timing of the solution for the key stakeholders
- d) Sustainability – Contribution to the economic, social and environmental needs of the nation to provide a sustainable solution.

## 20. Scope & Solution

In relation to the identified scheme objectives, a number of options were identified as having the potential to address some or all of the stated objectives as follows:

**The Do-Minimum** – some minor improvements at discrete locations along the existing network, within the study area. These are yet to be defined in detail, however, the content of the Do Minimum scheme would be limited to those improvements resultant from LDP commitments and existing/planned highway improvements resultant from funding applications which the local authority are currently working on. These improvements would be located on the A4050 Port Road and surrounding study area network. Nothing is planned for Five Mile Lane due to the extent of improvements that would be required to effect change.

The **'Intermediate'** position – removing bends on Five Mile Lane and improving junction visibility at side roads. The local authority has already examined what intermediate options can be implemented on Five Mile Lane as part of their Constraints Report in 2013. The Constraints Report produced by the Vale of Glamorgan Council identifies the worst affected areas on the existing alignment, which allows identification of the position and scale of the improvements. The extent of the works required for Intermediate benefit, actually have significant environmental and cost implications (removing bends on Five Mile Lane and improving junction visibility at side roads). It is felt that the intermediate scheme would not deliver significant enough benefit to support the economic argument or for its implementation to be justified.

The **'Maximum'** – providing an offline scheme which ties into the existing A4226 Five Mile Lane at each end, at Weycock Cross and Sycamore Cross and making best use of as much of the existing infrastructure as possible.

A Do-Nothing scenario has not been considered.

**Table 3.1 – Options**

	<b>Do Minimum</b>	<b>Intermediate</b>	<b>Maximum</b>
<b>Scope Coverage (What)</b>	Safety Improvements LDP improvements to ease flow on Port Road	Visibility and alignment works on Five Mile Lane	New highway
<b>Service Solution (How)</b>	Roundabout improvements Bus lanes Junction upgrades	Improvements at junctions on Five Mile Lane, removing hedgerows and straightening bends	Single carriageway offline scheme between the terminating nodes on Five Mile Lane
<b>Objectives met</b>	<b>Objective 5 Objective 6</b>	<b>Objective 4 Objective 5</b>	<b>All 6 Objectives</b>
<b>Critical Success Factors</b>	<b>c</b>	<b>c</b>	<b>a, b, c &amp; d</b>
<b>Decision</b>	Discount	Discount	Carry Forward - Preferred

### ***Advantages & Disadvantages***

The **Do Minimum** is the lowest cost option and would provide through flow improvements on the Port Road for a short period of time. The existing Vale of Glamorgan Council's Highway Impact Assessment, produced as part of the LDP identifies that even with only the committed growth, the Port Road junctions are over capacity. The improvements would result in some small relief to traffic congestion at the junctions and potentially improvements to road safety at existing accident locations on Port Road. However this option would contribute very little to improving accessibility in the area or to the regeneration of the Vale of Glamorgan on the whole and would do little to improve the network resilience issues. It would also do nothing to improve Five Mile Lane.

The Do Minimum solution could be delivered relatively quickly, although this is hampered at this time by not knowing the precise form it would take. It does not demonstrate a strategic fit with Welsh Government policies. In addition this solution would not meet the acceptability criteria for local residents in the urbanised areas on the Port Road, who would see an increase in vehicle travellers over the period of development of the Enterprise Zones.

The **Intermediate** option requires a significant increase in cost to deliver when compared to the Do-Minimum scenario. This is primarily due to the costs associated with the purchase of land and the environmental impacts associated with the complete removal of large lengths of hedgebanks adjacent to junctions. This option would provide limited improved visibility at junctions but would not result in the ability to increase the speed limit on the A4226.

This option would make a limited contribution to improving accessibility in the area and an overall minor contribution to the regeneration of the Enterprise Zones.

The **Maximum** intervention is significantly the most expensive option identified and constitutes a large infrastructure scheme. This option would provide the greatest improvements to congestion and road safety, and upgrade that impacts significantly on the resilience of the road network. It will demonstrate Value for Money (see below).

This option would maximise the contribution of the infrastructure works to the regeneration of the Enterprise Zones and demonstrates a robust fit with national and regional policies. The Maximum option would reinforce the status of the A4226 as a strategically important primary road in the Vale of Glamorgan. The maximum option would ensure a consistency of road standards with the rest of the primary road network in the area, although it would not be a trunk road.

## 21. Value for Money

One of the purposes of the Economic Case is to establish the degree to which the scheme (in this case the offline Do Maximum option) offers value for money for the taxpayer. This cost-benefit analysis considers whether the value of the benefits of the scheme justify its cost.

The economic case is currently under development.

## 22. Approach

The assessment which is currently underway considers costs and benefits that can be quantified in monetary terms. Such costs and benefits include the cost to Welsh Government and Vale of Glamorgan Council of constructing and maintaining the scheme, as well as the costs and benefits that accrue, over time, to users of the highway network as a result from the scheme.

There may be other costs and benefits that cannot be quantified in monetary terms. For example, some environmental impacts or social and distributional effects such as impacts on the local and regional economy. Therefore, the economic assessment is only one aspect of the overall case for investment.

The cost-benefit analysis compares the costs and benefits of the scheme – the '*do something*' case – to the situation without the scheme – the '*do minimum*' case.

The benefits are made up of the following:

- Journey time savings;
- Vehicle operating cost savings;
- Accident savings;
- Carbon emission savings;
- Wider economic benefits.

The costs incurred by Welsh Government and Vale of Glamorgan Council as a result of the scheme, include investment costs and operating costs. They are comprised of the following:

- Operating costs;
- Investment costs;
- Developer and other contributions (not applicable to this scheme); and
- Grant/subsidy payments (not applicable to this scheme).

The economic assessment compares the costs and benefits of a transport scheme that are accrued over a 60 year period. In order to ensure consistency, all monetary values are discounted to a common price base to give 'present values'. The current price base year for economic assessments stipulated by the Guidance is 2010.

### **Forecast Model Development**

The forecast traffic model is based upon the housing and employment sites identified within the Vale of Glamorgan's LDP and within the modelled area. These developments include the Enterprise Zones at St Athan and Cardiff Airport and the future passenger growth anticipated at Cardiff Airport.

The additional trips generated by the developments have been combined with additional growth factors, based upon the guidance provided in DMRB, to generate forecast traffic models which are realistic based on the information available at the time of the work.

The following adjustment factors have been used in the forecast traffic model, following agreement with the Welsh Government:

- 2013 TEMPRO trip rates for the Vale of Glamorgan zone to housing and employment planning data for the 2017 and 2032 forecast years;
- TEMPRO trip rates changes for South East Wales have been utilised for traffic travelling through the model;
- Growth rates for Cardiff Airport have been based upon forecasts from publically available studies;
- The Road Traffic Forecast 2013 has been utilised to forecast the growth of the LGVs and HGVs.

Three forecast traffic growth scenarios have been tested – low growth, central and high growth – to assess the impact of the scheme under varying demands. This process has been undertaken in accordance with the guidance provided in DMRB.

The central growth scenario results in overall traffic increases between 2013 and 2032 in the region of 26% in the AM and PM peaks and 27% in the inter peak.

### **23. Scheme Costs**

The total estimated out-turn cost of the scheme is currently c. £25.8m (at 2014 prices). The risk cost includes an element called Optimism Bias at 25% which is an adjustment factor applied to costs used in the economic assessment to reflect a systematic tendency, identified in past engineering schemes, to underestimate costs.

Optimism Bias is included as part of the appraisal of all transport schemes in the UK and is good practice to for inclusion for all public investment appraisals. In line with Green Book appraisal, when calculating the BCR/NPV of an intervention, appraisals should be consistent with the scheme costs plus optimism bias approach so they can be compared like-for-like.

### **24. Wider Economic Benefits**

The term 'Wider Economic Benefits' is used to describe the economic benefits of a transport improvement that are not captured in the Transport Economic Efficiency assessment.

Transport improvements can also affect patterns of economic activity at a local level, for example by influencing patterns of business location and investment. Such effects are dealt with later in this case and are referred to as Local Economic Impacts. In the context of the economic assessment, Wider Economic Benefits refers to the benefits of transport improvements that can result from direct cost savings for users being amplified through the economy. Wider Economic Benefits are net benefits at a UK level which are an adjustment to the main economic assessment and cost benefit analysis.

These economic benefits have yet to be explored in defined terms for this improvement.

### **25. Economic Assessment Results**

An initial economic assessment has been completed following the methodology previously identified to generate trips within the forecast models. Table 3.2 below summarises the outputs from the economic assessment for all three growth scenarios.

**Table 3.2 – Cost-Benefit Assessment**

	<b>Results (2010 prices, discounted to 2010)</b>		
	<b>Low Growth</b>	<b>Central Growth</b>	<b>High Growth</b>
Present Value of Benefits, PVB (£000)	39,910	54,288	88,477
Present Value of Costs, PVC (£000)	27,132	27,132	27,132
Net Present Value, NPV (£000)	12,778	27,156	61,345
<b>Benefit to Cost Ratio</b>	<b>1.47</b>	<b>2.00</b>	<b>3.26</b>

## **26. Economic Activity and Local Impacts**

The BCR is a narrow assessment of the benefits of the scheme and is only one element of a broader range of benefits delivered directly or facilitated by the scheme. In addition to these transport benefits separate consideration needs to be given to the local and regional socio-economic impacts of the scheme.

## **27. Improving Access to Key Sites and Settlements**

The strategy for the regeneration of the area focuses on attracting new jobs to the area, rather than relying solely on the towns and cities to the south and south-east to create employment opportunities. In an area with limited employment opportunities, maximising the value of available employment land is of significant importance.

The quality of the transport network is a major determinant of business investment decisions and affects the attractiveness of employment sites. The scheme would improve access between key employment sites and settlements, reducing transport costs for business and contributing to the quality of the business environment in the area.

There are several local tourist attractions and settlements that would benefit from the improved safety and accessibility to the wider area, from the scheme.

## **28. Enterprise Zones**

The scheme will support the proposals for land allocation in this area in the emerging Local Development Plan for the Vale of Glamorgan Council. In particular the status of the St Athan and Cardiff Airport Enterprise Zone and the significant employment allocation situated there.

## **29. Access to Employment Opportunities**

The scheme will provide access to the local employment areas in and around Barry, Bridgend and Cardiff, including the Enterprise Zones at St Athan and Cardiff Airport.

## **30. Social Impacts – Access to Services**

A contributor to social exclusion is ‘transport poverty’. People with poor accessibility increasingly find themselves cut off from access to work, shops, and health and other services. This isolation often compounds the difficulties of poor communities. Sustainable economic and social advancement in these communities can only be made if the excluded groups secure improved access to employment, training and public services. The scheme would improve access to jobs, employment opportunities and key services for all, through the potential for measures that remove barriers to work associated with access to transport.

Further assessment will be needed to demonstrate that the scheme will deliver against this impact area.

## **31. Economic Case Summary**

The key points from the economic case are:

- The scheme has been subject to a rigorous appraisal process in line with UK and Welsh Government guidance;
- Taking apart the wider socio-economic impact of the scheme, the scheme offers good value for money. The BCR for the scheme is likely to be positive, although this is currently under development;
- The scheme will provide greatly improved access to the St Athan and Cardiff Airport Enterprise Zones and a range of regionally important employment sites, including Cardiff Airport;
- The scheme will increase access to employment opportunities for residents of the Vale of Glamorgan, Cardiff and Bridgend areas.

## 32. The Commercial Case

### Introduction

The first part of this section outlines the procurement options considered to deliver the scheme. The latter sections consider the approach to be utilised to finance the scheme.

### 33. Procurement Strategy: Key Factors Relating to Delivery of a Successful Outcome within Budget

As part of the on-going discussions with the Welsh Government some initial consideration has been given to which contract form for any works to the A4226 Five Mile Lane might be carried out under.

The approach being adopted by the Welsh Government to date has been to appoint consultancy support ( Parsons Brinckerhof) in order to quickly take forward the scheme design with the aim of submitting a planning application in December 2014. This approach overrides the ability to follow any route to early contractor involvement (ECI) in such design notwithstanding that an ECI route is the preferred approach in the Welsh Government guidance.

The successful delivery of the project objectives at an outturn cost within the allocated budget will be determined by a wide range of factors which go beyond the chosen approach to the procurement strategy for the delivery of the project. For example, the form of contract on its own will not determine whether the project is successful.

Factors which will contribute to a successful outcome of delivery within budget include:

- Clarity of objectives and common understanding by all parties
- Robustness of Client's cost estimate
- Adequacy of the Client's risk pot including allowance for inflation
- Effectiveness of project control processes including Gateways
- Quality of the design, specification and contract documents
- Preparation of the supply chain and timing of the procurement processes
- Compliance with Procurement Regulations and avoidance of challenges
- Appropriateness of the selection process and selection criteria
- Robustness of the tender assessment process
- Adequacy of the tender sum to deliver requirements
- Allocation of contractual risks and risk management
- Effectiveness of partnership and team working during construction
- Quality of the project and contract management
- Appropriateness of contractual performance incentives
- Effectiveness of dispute avoidance and resolution procedures
- Availability of the necessary resources

### 34. Policy and Legislative Background

A fundamental requirement of any procurement strategy adopted by public sector clients is that it is compliant with relevant Legislation and policy directives. The relevant requirements applicable to the Five Mile lane scheme are set out below.

### 35. EU Directives and Procurement Regulations

As a Public Authority, Vale of Glamorgan Council is required to comply with The Public Contracts Regulations 2006. The Regulations includes various processes.

**Part 3** covers the use of the open, restricted, negotiated and competitive dialogue procedures. It is anticipated that the selection procedure to be used by the Vale of Glamorgan Council for the procurement of Five Mile Lane Road improvements will be the restricted procedure. **Part 4** covers the criteria for rejection and selection of economic operators for tender lists. **Part 5** covers the criteria for the award of a contract.

In accordance with its Financial Regulations and Contract standing Orders, the Vale of Glamorgan Council may award contracts on the basis of the following criteria:

- the lowest price offer, or
- the most economically advantageous offer from the Vale of Glamorgan Council's point of view.

### 36. OGC Policy

Since April 2000, government policy has been that construction projects should be procured by one of the three recommended procurement routes – Design and Build, Prime Contracting or PFI. Traditional procurement routes should only be used if they demonstrably add value in comparison to the three recommended routes.

### 37. OGC definitions of preferred integrated procurement routes

**Design and Build-** using a single contractor to act as the sole point of responsibility to a public sector client for the design, management and delivery of a construction project on time, within budget (taking account of whole life

costs) and in accordance with a pre-defined output specification using reasonable skill and care.

**Prime Contracting-** Using a single contractor to act as the sole point of responsibility to public sector client for the management and delivery of a construction project on time, within budget (defined over the lifetime of the project) and fit for the purpose for which it was intended, including demonstrating during the initial period of operation that operating cost and performance parameters can be met in agreed with a pre-agreed cost model

**Private Finance Initiative** -here the public sector contracts to purchase quality services, with defined outputs from the private sector on long-term basis, and including maintaining or constructing the necessary infrastructure so as to take advantage of private sector management skills incentivised by having private finance at risk.

### **38. Procurement Strategy Options**

#### **Introduction. Current position and assumptions**

The assessment of options needs to take account of the stage which the scheme has reached and make most effective use of invested knowledge and scheme development work to date. It also needs to take account of the availability of the skills and resources needed to deliver a successful outcome including the capability and capacity within the client organisation.

### **39. Main Options**

The options for the overall procurement route are:

- a. Design and Build
  - target price
  - lump sum
- b. Prime Contracting
- c. PFI
- d. Traditional approach

It is not considered that Prime Contracting or PFI would add value or be appropriate for use on the Five Mile Lane Improvement scheme. This is mainly due to the immediacy of the programme and the overall cost of the scheme being less than £30m. This leaves a Design and Build approach or the traditional route.

The Design and Build approach is favoured over the traditional approach for this scheme, due to the immediacy of the programme and the importance that the Welsh Government and Vale of Glamorgan have placed upon the build ability for the scheme

## 40. Contract Options

Contract Options can range from traditional lump sum design and build through to early contractor involvement. The options that would have been identified as most likely to support the project objectives and therefore deliver best value are:

- Option 1 Traditional Employers design
- Option 2 Traditional Design and Build post Planning Consent
- Option 3 Traditional Design & Build pre-Planning Consent
- Option 4 traditional Employers's Design with early contractor involvement (ECI) with Construction only.

(Note: A traditional ECI Contract is not a viable option as the "Employer" is contemplating the preliminary design/statutory consent procedures work)

Option 1 has been ruled out during discussions with the Welsh Government as not supporting their objective of involving the contracting supply chain.

Option 2 is the preferred/optimum as this provides the appropriate level of design needed for planning and land acquisition whilst giving the contractor sufficient opportunity to value engineer the design for construction purposes eg, materials, construction methods etc.

Option 3 is not preferred/sub optimal as whilst it gives the Contractor sufficient opportunity to value engineer the design there is an increased level of uncertainty in the design at tender stage which could result in higher construction risk allowances.

Option 4 has benefits in terms of contractor influencing the final design but the lack of a contractual arrangement between the Designer and the Contractor makes this difficult to deliver.

The Vale of Glamorgan Council has the option to utilise the SEW Construction Framework or the normal OJEU Contract Notice (Restricted Procedure) to appoint the contractor. The SEW Construction Framework was not originally intended to be utilised for schemes of this nature or value and therefore is unlikely to provide the best value for money to the Vale of Glamorgan Council. The latter route is recommended as this is likely to provide the better opportunity to appoint the contractor with the right skills and capacity and giving all locally based contractors the opportunity to bid for this significant contract.

## 41. Form of Contract

Influences on the choice of contract

Key high level drivers which influence the choice of contract include:

- The need to achieve and demonstrate best value for money in the delivery of the scheme and the management of risks.
- The OGC recommendation for the use of NEC3 for the delivery of publicly funded schemes and the need set out by HM Treasury and OGC for public sector clients to align with Achieving Excellence principles.
- Alignment with the aims and objectives, and desired culture.
- The need for procurement methods and forms of contract that will be attractive to the best quality suppliers.

## **42. Assessment of options - Introduction**

The Office of Government Commerce (OGC) advises public sector clients that the form of contract has to be selected according to the objectives of the scheme, aiming to satisfy the Achieving Excellence in Construction (AEC) principles. The OGC considers that the NEC3 complies fully with the AEC principles and they recommend its use by public sector construction procurers on their construction schemes. The NEC3 therefore, is set out as the starting point for the assessment of possible forms of contract and to consider whether it would be suitable for the successful delivery of the Five Mile lane project. Other options are then considered to see if they would offer any significant advantage over the use of the NEC3.

## **43. Contract Options**

The main forms of contract which are available are:

- NEC3
- ICE7
- ICE Target Cost
- JCT

Key factors which contribute to a successful outcome and which need to be considered in the selection of the form(s) of contract are:

- Contractual risk allocation
- Project culture
- Stimulus to good management – communication and problem resolution
- Change control and pricing procedures
- Contractual payment mechanism and performance incentives
- Attractiveness to the supply chain

## **44. Evaluation**

The form of contract recommended by the OGC for the delivery of construction projects is the NEC3. There would be a need therefore, if it were proposed to

use to a different contract, to demonstrate that the NEC3 was not appropriate and that an alternative would be more likely to support a successful project outcome.

The NEC3 contract would support the delivery of the project objectives and in particular would achieve the following:

- A fair allocation of risk with incentives to deliver within budget
- Provides flexibility in the allocation of risk and the payment mechanism
- Provides flexibility for the accommodation of change
- Provides a strong management stimulus for effective risk management
- Supports a partnership approach to the delivery of the project
- It is widely used in the construction industry, has a good reputation in the industry and would help to attract a competitive tender list.

With the NEC3 it is important that the Client makes allowance in the budget for compensation events which would be payable if identified risks occur. It will be important, therefore for the Vale of Glamorgan Council and Welsh Government as funders to consider risks and contingency allocations.

The ICE7 and ICE Target Cost would both basically require a traditional approach to the delivery of the project with an independent Designer and Engineer under the contract. The Employer would not be able to control the commercial management of the contract and would be exposed to the risk of change. The ICE Target Cost contract was only published in 2006 and so there is not a great deal of evidence to date of its use on major infrastructure projects. That said, the ICE Design and Construct contract form (2001) could be considered as a standard D&B approach but there is little in house capability.

The JCT suite of contracts is generally associated with the building sector. The JCT is another contract with similarities to the ICE conditions and therefore, generally perceived as being prone to adversarial behaviours and, again, there is a lack of in house expertise in managing same.

Generally such contracts would not be in line with current OGC guidance on recommended procurement routes. Overall, there are no benefits identified which would justify departing from the use of the recommended NEC3.

#### **45. Assumptions on the form of contract**

At this stage the assessment of the alternative options has not identified any

significant additional benefits that would justify using a contract other than the NEC3 and therefore NEC3 should be used for this scheme. The assumptions are therefore that;

- NEC ECC form of contract to be used to employ the Employers Agents ( EA) for the scheme.
- NEC ECC form of contract to be used for construction and will follow the WG models where the Target Cost for the works will be a tendered value.
- The Vale of Glamorgan Council to be the Employer for both contracts.
- The Welsh Government to fully fund all parts of the scheme, eg, Environmental Assessment, construction, fees and land acquisition/compensation costs.
- Programme- to be considered following appointment of the main contractor

#### **46. Constraints and Opportunities.**

The elements which are considered to be fixed post Planning Consent are:

- The horizontal and vertical alignments of the road scheme;
- Drainage strategy and outfalls ( unless conditioned);
- Environmental Mitigation ( unless conditioned)
- Land Acquisition
- Structural form (OAIP); and,
- Signing Strategy.

The elements which are considered to be flexible post Planning Consent are:

- Materials;
- Working Methods;
- Road Restraint Systems ( unless land needed)
- Pavement options;
- Fencing and accommodation works;
- Structural Design.

There appears to be sufficient “flexibility” post Planning Consent to make a traditional Design and Build form of contract a viable option. An ECI form of contract is also viable but there is a higher level of design uncertainty which could result in higher risk allowances in the tenderers’ Target Cost.

## **47. Risk Management**

As part of the management of the scheme the Council will review risks associated with the procurement and delivery of the scheme. In conjunction with the Employer's Agent, the Council's Procurement Unit and the Council's Legal advisors a detailed assessment of both contract form and contract content will be undertaken and this will present an assessment of risk factors for consideration by the Project Board prior to the presentation of the results of any procurement exercise to Cabinet.

## **48. Commercial Case Summary**

The key points of the commercial case are:

- The Vale of Glamorgan Council will procure an Employer's Agent following a competitive tendering process;
- The programme is established to ensure that the procurement of the relevant Employer's Agent team is in place;
- A contractor will be procured with the assistance of the Employer's Agent by the Vale of Glamorgan Council, following a competitive tendering process;
- A robust and well established risk management system is in place which ensures that project risks will be managed in line with the Vale of Glamorgan Council's processes.

## **49. The Financial Case**

### **Introduction**

The Financial Case demonstrates that the “preferred option” will result in a fundable and affordable scheme.

This section of the business case requires the spending authority to set out the capital and revenue requirement for the spending proposal over the expected life span of the service, together with an assessment of how the scheme will impact upon the balance sheet, income and expenditure account and pricing (if applicable) of the public sector organisation.

## **50. Capital Costs**

A number of funding options have been considered to ensure delivery of the scheme but given the limited capacity of the Vale of Glamorgan Council’s Capital Programme as set out in the Council’s Medium Term Financial Plan it is unlikely that the Council could bring forward anything other than its staff resources at this time in support of the scheme.

Given the Welsh Government announcement regarding the delivery of the scheme it is currently assumed that the scheme funding will be via Welsh Government grant to the Council. The terms of such an arrangement will follow the submission of a grant bid to the Welsh Government by the Council and so the details of any future funding arrangement are currently unknown.

### **Capital Costs and Funding Arrangements**

The provisional total out-turn cost of the project is £25.8 m including construction, design, as well as non-recoverable VAT and risk and including land costs.

## **51. Phased Approach to delivery**

Given that the actual scheme costs are unlikely to be known until much later on in the scheme programme (because the procurement strategy currently assumes a design and build approach) the Council has assumed that the scheme will be delivered on a phased basis and that through a process of interim reporting to the Welsh Government the funding arrangements will be regularly reviewed and agreed.

## **52. Capital Costs and Funding Arrangements**

Due to the location of the scheme – in close proximity to, but not contiguous with the existing Trunk Road network – the options available to improve Five Mile Lane are limited. The only feasible option is for Welsh Government to provide a grant to the Vale of Glamorgan Council to fund the improvements. The total out-turn cost of the scheme is likely to be in the region of £25.8m (2014 prices) including construction, design, risk and land costs.

## **53. Summary of the Financial Case**

The key points from the financial case are:-

- The overall capital cost of the scheme (including land costs) is forecast to be £25.8m (2014 prices) with the majority of the spend occurring 2016-17;
- The scheme will be financed through Grant Funding to the Vale of Glamorgan Council from Welsh Government;

No outside sources of European funding are available for this scheme.

## 54. The Management Case

### Introduction

The Management Case demonstrates that the “preferred option” is capable of being delivered successfully, in accordance with recognised best practice. This section of the business case requires the spending authority to demonstrate that the spending proposal is being implemented in accordance with a recognised Programme and Project Management (PPM) methodology and that there are robust arrangements in place for change management and contract management, the delivery of benefits and the management and mitigation of risk.

It also requires the spending authority to specify the arrangements for monitoring during implementation and for post implementation evaluation, as well as for Gateway reviews (if applicable), and the contingency plans for risk management of the scheme.

## 55. Governance Arrangements

Overall responsibility for the delivery of major projects lies with the Cabinet of the Vale of Glamorgan Council.

The scheme includes a **Project Board** responsible for strategically managing the scheme between key milestones. The Project Board forms a link between the Cabinet of the Council and the Project Delivery Team. It comprises of senior personnel from each of the main parties to the scheme. The role of the Project Board is to manage by exception and only intervening with the work of the Project Team where necessary to:

- Create an environment in which the scheme can thrive;
- Advise and support the Project Team;
- Setting boundaries between key decision points;
- Championing early dispute resolution where possible;
- Consider and approve the on-going Business Case to enable scheme development to continue;
- Agree on a high level project timetable for delivery;
- Review the scheme against Policy objectives at agreed milestones and provide continued commitment and endorsement where appropriate.

The Vale of Glamorgan Council’s Project Manager is responsible for the day-to-day detailed management of the scheme, with the assistance of the NEC Project Manager and NEC Supervisor. The Project Delivery Team is led by the Project Manager and includes representatives of the Employer’s Agent, the Welsh Government’s Project Engineer and members of the contractor’s team procured to deliver the scheme as well as the various technical support teams. The primary activities include:

- Promoting the scheme both internally and to external partners and stakeholders;
- Ensuring the scheme delivered is the optimum solution;

- Ensuring scheme activities comply with Welsh Government and local policy;

### **56. Maximising Local Impacts**

A range of innovative approaches to the design and delivery of the scheme have been identified in order to minimise the risk of the scheme not progressing through the statutory process and maximising the opportunities for success. These are listed below and with further details provided of key points later in the remaining section.

### **57. Targeted recruitment and training.**

The Welsh Government has employed an innovative Targeted Recruitment and Training (TR&T) clause in its recent transport contracts to maximise the impact of public spending on well-being whilst ensuring compliance with the EU Procurement Directive and avoiding disadvantaging non-local contractors. It is the intention of the Vale of Glamorgan Council to consider how such a clause can be utilised in the procurement exercise for the Five Mile Lane highway improvements to support this ongoing initiative for local recruitment and training.

### **58. Engagement with local schools.**

The delivery team will engage with local schools in advance of construction in order to foster long term relationships, encouraging pupils and inspiring them to aim high and achieve their potential is a legacy targeted by the core team.

### **59. Pro-active public engagement.**

Throughout the history of the development of the scheme, an active approach has been taken to public engagement to ensure people's views are heard. This approach will be continued throughout the planning process and beyond into the EA and D&B Contractors appointment.

### **60. Early supply-chain engagement.**

It is recommended that the contractors organise 'meet the buyer' events over one year in advance of construction with the purpose of highlighting potential supplier opportunities to local businesses.

### **61. Innovation in design.**

Innovative design practices will be employed and encouraged as part of the Design and Build approach to the scheme.

## **62. Sustainable construction practices.**

Modern sustainable practices are being employed to minimise resources, waste and carbon emissions. This includes the planned recovery of all old road pavements for recycling into new road pavement, and the development of a solution which allows the majority of aggregates used to be produced on site from 'site won rock' rather than importing from quarries. Further to this, the construction workforce will receive training to ensure that potential negative environmental impacts are avoided.

## **63. A Low energy solution.**

The design on the new road minimises the need for street lighting by taking a more balanced view of the many competing aspects, including safety, light pollution, energy, cost and landscape impacts.

## **64. Maximising community benefits.**

A balanced approach to the competing needs of drivers and non-motorised transport users to ensure that their needs are well catered for, avoiding the new road becoming an obstacle on the landscape. The retention of the existing Five Mile Lane route allows the creation of a 'community route' with cycle ways and footpaths which support healthier lifestyles and foster community integration.

## **65. Targeted Recruitment and Training**

Historically, training and recruitment initiatives have relied on the good will of contractors. For the Five Mile Lane Improvements, this is yet to be agreed. In other contracts, the contract specifies that a minimum of 12.0% of total labour costs are to be used for employment of 'new entrant' trainees'. New entrants are those who are currently unemployed or economically inactive but capable of employment and wishing to find employment and training in the construction sector.

## **66. Engagement --Local Schools**

There are a series of local schools and colleges, including Barry College which could benefit from the opportunity to engage with the scheme. The approach to this is yet to be agreed in detail.

## **67. Public and Community Engagement**

As part of the public engagement there has already been a number of exhibitions and events to explain the scheme to the public.

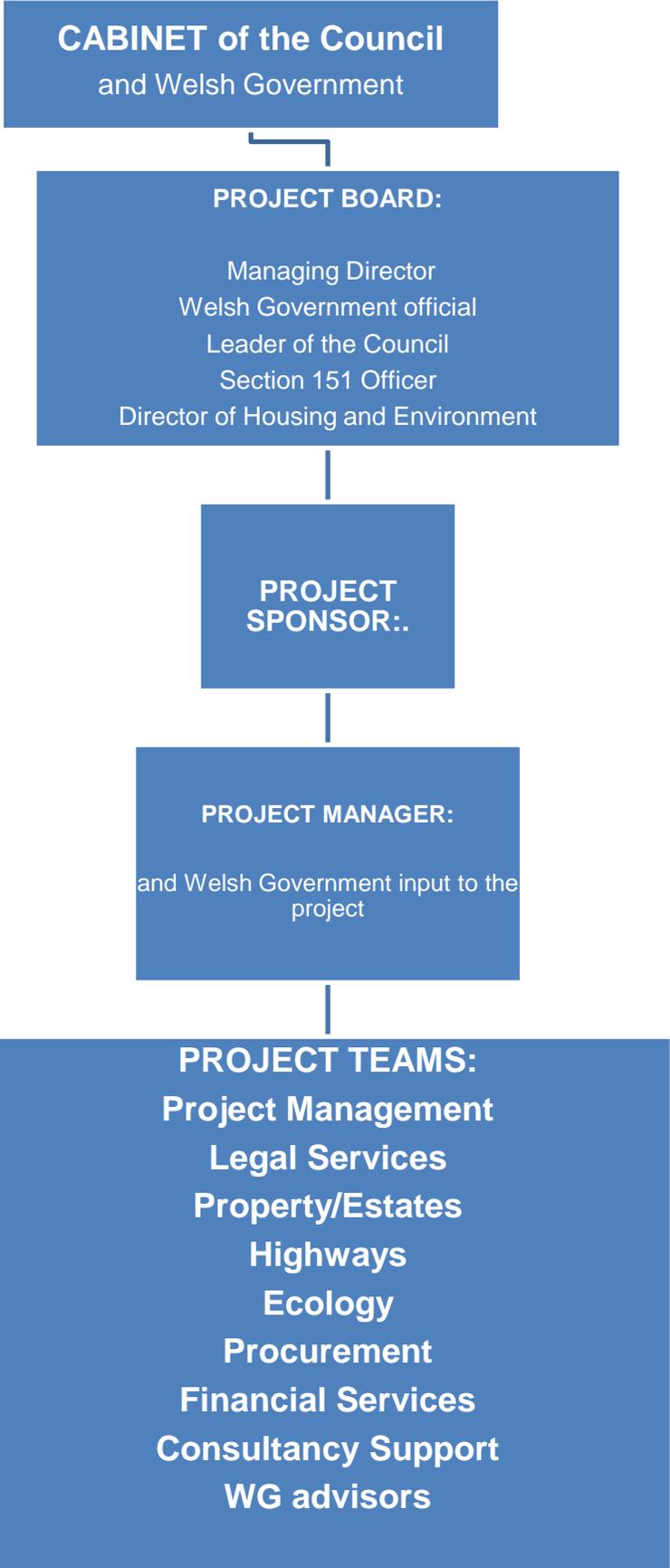
It is proposed that in 2014, there will be consultation directly with landowners relating to their access needs and the potential for accommodation works. This will be undertaken by Parsons Brinckerhoff on behalf of the Welsh Government and in conjunction with the Vale of Glamorgan Council staff.

In advance of the application for planning being submitted in December 2014 and the Orders being published concurrently, there will also be an engineering plans exhibition will be held locally to inform the public on the proposals.

## **68. Summary of the Management Case**

The key points from the management case are:-

- The scheme is pro-actively seeking to maximise local benefits. In particular, the targeted recruitment and training scheme will have a positive impact on the surrounding area;
- Engagement with the local community will be an important aspect of the development of the scheme;
- Governance arrangements are in-place to ensure good project management practices are in place at all levels of the scheme to ensure the scheme is delivered on time and to budget and that the scheme delivered provides best value.



Governance table.

## Conclusions

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The proposed Five Mile Lane Highway Improvements stem from the strategic plans of both the Welsh Government and the Vale of Glamorgan Council as set in this document. The Council has previously received a Principal Road Grant from the Welsh Government to advance the Five Mile Lane Highway Improvement Scheme, and to date this work has involved the signalisation of Sycamore Cross junction, as well as initial design and feasibility work together with various environmental assessments relating to the larger scheme proposal now under consideration.

This Business case sets out a robust case for the implementation of the scheme as indicated by the summaries to each of the five elements of the case.

- The strategic case for the project is well established and the improvement to the A4226 is on the Welsh Government and Local Authority agenda;
- The improvements support a framework of policy which is aimed economic regeneration;
- The importance of the scheme as an enabler to the development of the Enterprise Zones at St Athan and Cardiff Airport are supported through local and national policy.
- The strategic case for the project is well established and the preferred scheme option will meet the strategic objectives.
- The scheme has been subject to a rigorous appraisal process in line with UK and Welsh Government guidance;
- Taking apart the wider socio-economic impact of the scheme, the scheme offers good value for money.
- The scheme will provide greatly improved access to the Enterprise Zone and a range of regionally important employment sites.
- The Vale of Glamorgan Council will procure an Employer's Agent following a competitive tendering process;
- The programme is established to ensure that the procurement of the relevant Employer's Agent team is in place;
- A contractor will be procured with the assistance of the Employer's Agent by the Vale of Glamorgan Council, following a competitive tendering process;
- A robust and well established risk management system is in place which ensures that project risks will be managed in line with the Vale of Glamorgan Council's processes.
- The scheme is to be managed utilised the Vale of Glamorgan Council project Management Toolkit which is based upon the principles of the Prince 2 system;

- The scheme is pro-actively seeking to maximise local benefits. In particular, the targeted recruitment and training scheme will have a positive impact on the surrounding area;
- Engagement with the local community has been an important aspect of the development of the scheme. Engagement has included initiatives in local schools, public information exhibitions and supermarket information days.
- The scheme has a formal risk management approach with a dedicated Risk Manager.
- Governance arrangements are in-place to ensure good project management practices are in place at all levels of the project to ensure the scheme is delivered on time and to budget and that the scheme delivered provides best value for the Welsh Government.