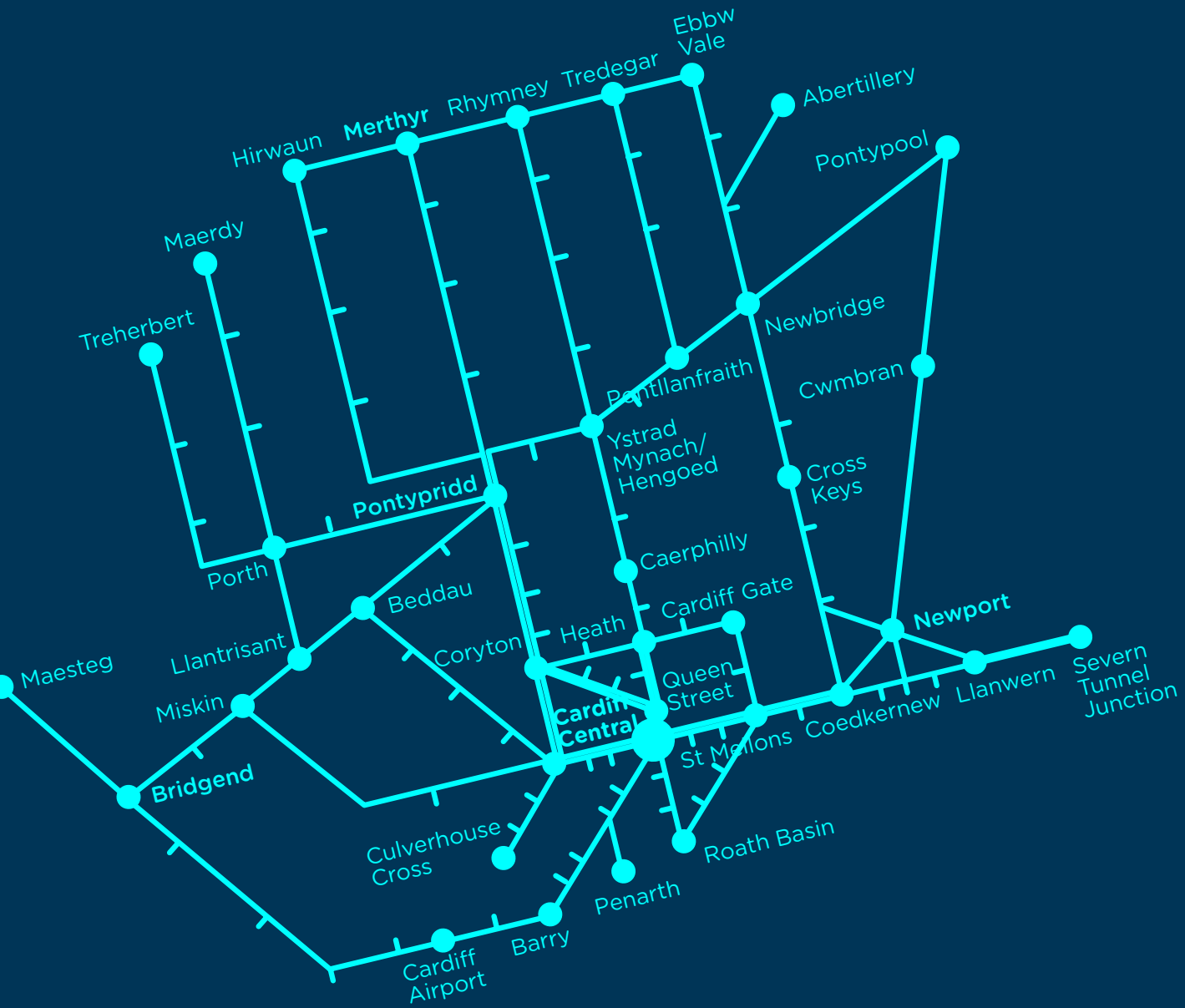
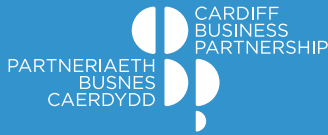


A Metro for Wales' Capital City Region

Connecting Cardiff, Newport and the Valleys

Mark Barry





The **Cardiff Business Partnership** consists of leading employers in the Capital of Wales. Its mission is to represent leading businesses in the Capital, ensuring that the views of business and enterprise are at the heart of the development of Cardiff as a competitive global location. The Partnership aims to identify key issues facing the capital's economy. Through its members who represent some of the city's largest employers, the Partnership has the unique ability to go beyond advocacy to action.

The Partnership also serves as a resource of expertise and creative thinking for policy makers, media and others concerned with taking forward the Cardiff and Wales economy. The Partnership seeks to influence policy by presenting the views of leading businesses, sponsoring research, and bringing together experts and leaders in city development issues.

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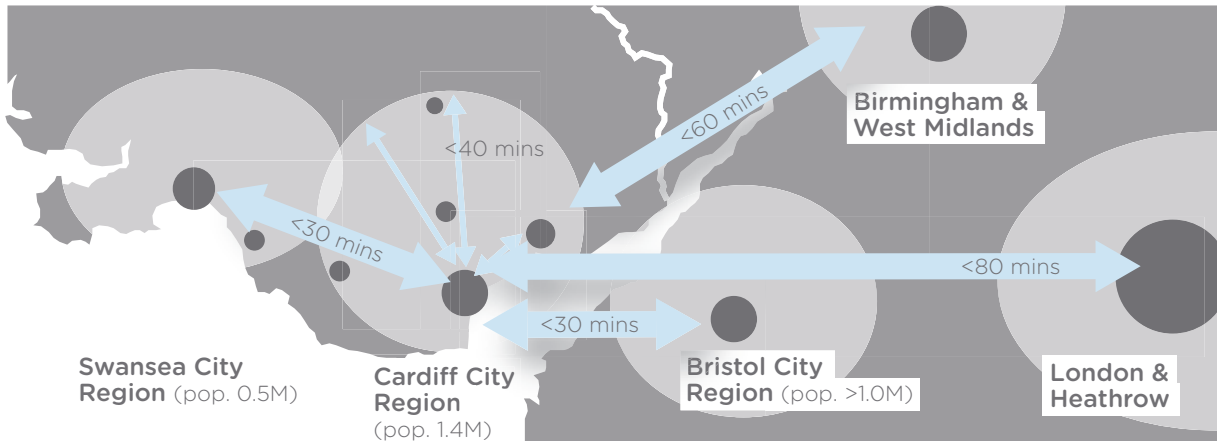
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The Author

Mark Barry was born and grew up in Cardiff. He left in 1981 to study at Manchester University where he graduated in Physics and The Analysis of Science and Technology in 1985 before working in London and overseas in the IT/Software industry. From 1997, Mark spent five years in Management Consultancy working for the PA Consulting Group on projects for blue chip and government clients in both Europe and North America. In 2003 and after a short stay at the Welsh Development Agency, he founded and was Chief Executive of Cardiff Biotech Company, Q Chip Ltd. At the end of 2009, Mark founded Reagent Delivery Systems, another biotech company, focused on the opportunities presented by Point of Care Diagnostics. He also has his own consultancy business offering services including economic and transport policy development, programme management, business strategy, and fund raising, especially for new technology companies.

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The Cardiff Business Partnership engaged Mark with the sponsorship of Admiral Insurance, to produce this publication.



How the Great Western Rail Corridor could be by 2025.

Foreword

Around the world, the success of city region economies is becoming increasingly dependent on high capacity, high quality, intra and inter regional public transport systems. Leading city regions in the UK such as Manchester, Leeds, Sheffield, Nottingham and Edinburgh are pushing ahead with the development and expansion of modern urban transit systems to boost their economies. Following the example of many countries around the world, the UK Government has also committed to link up England's major cities with a High Speed Rail network.

Today, in Wales, over 100,000 people commute into Cardiff and Newport from neighbouring authorities, mainly by car, many of whom are employees of the Partnership's member companies. This increasing level of commuting between Cardiff, Newport and their neighbouring towns and cities is critically dependent on the region's transport infrastructure.

Therefore, The Cardiff Business Partnership believes that Wales's future economic growth requires a new vision for the Capital's connectivity and a recognition from the global evidence, that a thriving, connected city region can be an engine of economic growth. Using the electrification of Great Western Main Line as a catalyst, it is time to develop and implement the ambitious transport vision set

out in this paper. This would enable the Cardiff City Region population to travel far more quickly and easily, and also radically enhance connectivity with London and Heathrow.

Given the evidence from around the world, the Cardiff Business Partnership believes the delivery of this vision, combined with a coherent economic strategy for the wider city region, will make a significant contribution to improving Wales' economic fortunes. Consequently, it should be a priority for the governments at both Cardiff and Westminster, and for local authorities and the business community to promote this vision and bring it into reality.

David Stevens CBE,
Director, Cardiff Business Partnership

Roy J Thomas,
Director, Cardiff Business Partnership

January 2011

Summary

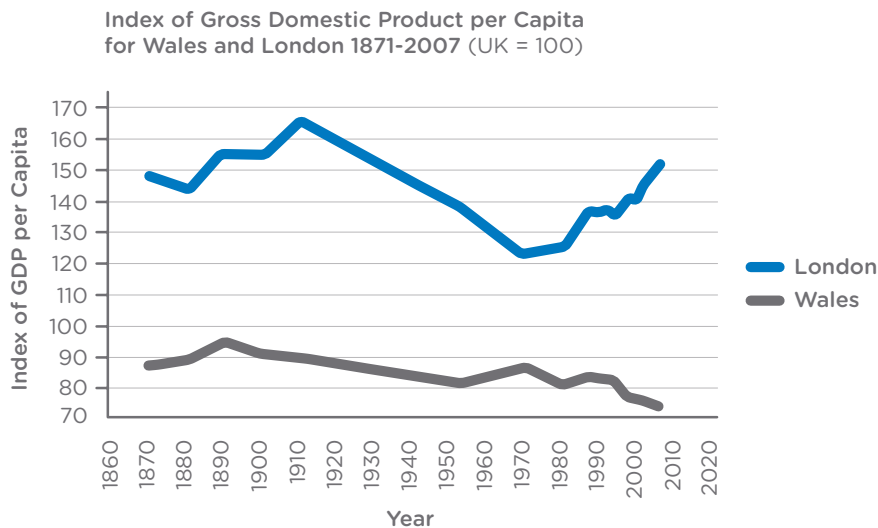
As a leading industrial and manufacturing nation of the past, it is disappointing that the performance of the Welsh economy has been surpassed by other parts of the UK - a trend that goes back to the 1920s. Governments, whether at Cardiff or London, of all parties, have attempted but failed to address a slow inexorable decline in Wales's relative wealth when compared to the UK as a whole (See Figure 1). A new vision is now required. A philosophy which has concentrated investment on need rather than opportunity, has resulted in an economy plagued by homogenous mediocrity. More specifically, the undoubted and well-intentioned efforts of a range of public bodies in directing resources to address the problems of the south Wales valleys have not worked. Without a radical change in policy Wales, and especially the Valleys, will continue to under-perform the rest of the UK.

Of course, some bright spots have emerged despite this depressing backdrop. Cardiff is a changing, dynamic and growing city within a wider city

region that contains nearly half the Welsh population (see Figure 2). Its recent economic performance demonstrates that it has the capability to improve the economic fortunes of the entire city region. However, some new, imaginative and perhaps ruthless policy interventions are required to exploit this potential.

There are many factors that influence the economy. This paper focuses on one of the most important, transport and its contribution to the economic performance of the Cardiff City Region, which is home to 1.4 million people in Cardiff, Newport, the Vale of Glamorgan and the South Wales Valleys. Whilst a good transport infrastructure does not guarantee economic success, it is also true that economic success can only occur where there is a good transport infrastructure. Now is the time, therefore, to put the opportunity presented by Cardiff and its connectivity, both within the city region and internationally, at the heart of economic policy.

FIGURE 1:
Long-term decline in Welsh GDP per head



Source: Based on Nicholas Crafts (2005) Regional GDP in Britain, 1871-911, *Scottish Journal of Political Economy*, Vol. 52, No. 1

FIGURE 2:

1.4 million people live within 20 miles of Cardiff

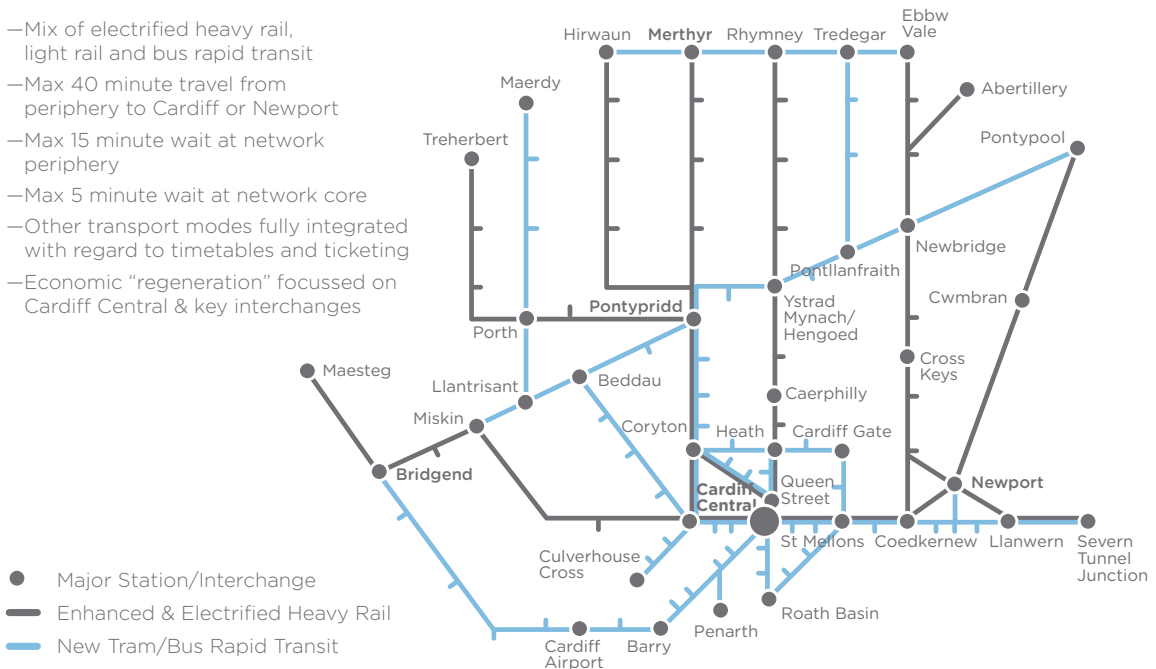


FIGURE 3:

Illustrative Cardiff Metro

Key features:

- Mix of electrified heavy rail, light rail and bus rapid transit
- Max 40 minute travel from periphery to Cardiff or Newport
- Max 15 minute wait at network periphery
- Max 5 minute wait at network core
- Other transport modes fully integrated with regard to timetables and ticketing
- Economic "regeneration" focussed on Cardiff Central & key interchanges



- Major Station/Interchange
- Enhanced & Electrified Heavy Rail
- New Tram/Bus Rapid Transit

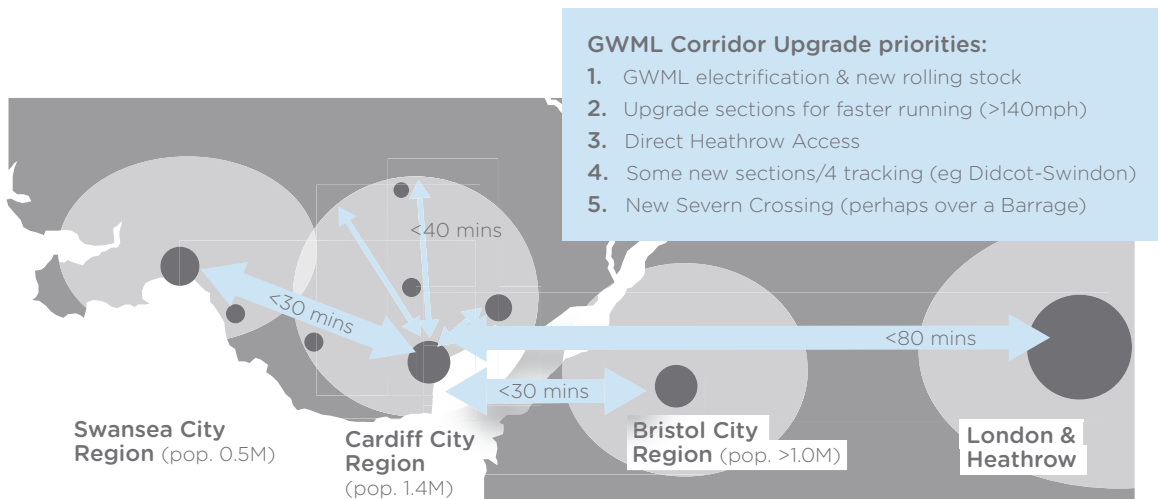


FIGURE 4:
Radically improved connectivity for the Cardiff City Region

To realise this ambition we need, by 2025, a 21st Century transport infrastructure that delivers a step change in both intra and inter regional connectivity through:

- The development of a Cardiff Metro, with a combined heavy and light rail network to enable travel from the Heads of the Valleys to Cardiff Central four times an hour in less than 40 minutes (Figure 3).
- A step-change upgrade of the Great Western Rail Corridor, to enable travel from Cardiff Central to London and Heathrow twice an hour in less than 80 minutes (Figure 4).

The implementation of a Cardiff Metro and high-speed rail links to Swansea, Bristol, London and Heathrow, combined with economic policy directed to maximise the opportunity presented by Cardiff for its wider city region, would spark a renaissance for the Welsh economy.

This vision will require a significant investment, over at least ten years, to deliver Valleys electrification, network extensions, new rolling stock, new tram and rapid transit routes, new and improved

stations, and transport interchanges. In addition to electrification, the Great Western Corridor will undergo a step-change upgrade with the introduction of true high-speed rail services.

Augmenting this infrastructure, economic policy will acknowledge Cardiff as the engine of growth for the entire Cardiff City Region. The aim should be that, by 2025, it would be able to attract high value inward investments as well as nurturing more of its own leading edge companies, resulting in the higher paid jobs our economy needs. The enhanced transport infrastructure could also stimulate a reversal in the slow economic decline of the Heads of the Valleys as job opportunities in Cardiff, Newport and along the M4 corridor become available to the entire Cardiff City Region. The improved connectivity with Bristol and Swansea would also promote economic activity across the Severn estuary.

However, to deliver these benefits, we must first address some fundamental issues:

1. Simplified governance of rail in Wales

The governance of rail in Wales is confused and fragmented with the Department for Transport,

Network Rail, train operating companies, the Welsh Government, local authorities and Regional Transport consortia all having overlapping responsibilities. Furthermore, the evidence suggests, that without a full devolution of rail powers, Wales will continue to be under-funded in terms of rail infrastructure when compared with the rest of UK. This funding shortfall was one of the key findings of a review of rail infrastructure in Wales undertaken by the National Assembly's Enterprise and Learning Committee in 2009-10.

2. Higher priority for essential business infrastructure

It is also time to direct existing Welsh Government transport and economy funds away from policy interventions and programmes whose impacts and legacy are, at best, inconclusive. Instead, we should invest in the hard infrastructure Wales desperately needs. The recent publication of the Welsh Government's Economic Renewal Strategy lends its support to this objective, since it put investment in infrastructure as its first priority.

3. Additional sources of funding

In addition to devolved funds for rail and those already within the Welsh Government's control, further sources should be explored. These could include bonds, road pricing, tax increment financing as well as any remaining European structural funds available post 2015.

4. Leadership and commitment from both the public and private sectors

The development of a Cardiff Metro and high speed rail link to London and Heathrow will also require leadership from the Welsh Government, with the support and commitment of local authorities and leading private sector businesses in the Cardiff City Region. Together they will need to build and articulate a business case based upon the wider economic benefits that can be delivered. In relation to the upgrade of the Great Western Main Line and later, a true high-speed link to London, a collaborative effort with public and private bodies in Bristol and South West England is required.

5. A Cardiff City Region approach to transport

Cardiff County Council is too small to compete with the leading cities and city regions across Europe. Because of its limited resources, it is unable to act on its own on matters such as transport to address the strategic challenges of its wider city region. The development of a coherent transport strategy, especially as regards rail and light rail, will remain almost impossible until the overly complex governance of transport in the Cardiff City Region is simplified through the introduction of a single organisation with the authority and finance to ensure its delivery.

6. Delivery capability

Whilst government has an expertise and focus on policy, it is often less adept at implementation, especially in delivering major infrastructure schemes. As with bodies like Crossrail and the Olympic Delivery Authority, the development and implementation of the Cardiff Metro needs a similar organisation that can deliver the scheme without the constraints that exist in government. Such an entity could be quickly established and secure the most ably qualified and expert resources from both the public and private sectors.

Therefore, delivering a Cardiff Metro and faster links to London and Heathrow will require:

1. A Cardiff City Region approach to transport and economic development.
2. Strong public and private sector leadership.
3. A simplified rail industry.
4. Investing around £300 million a year over the period 2015-2025.

All are needed to ensure the opportunities presented by Cardiff are enjoyed by its entire city region. We should aim to do a few things well instead of succumbing to the slow decline of homogenous mediocrity.

Reversing the Welsh economy's long-term decline

It's about time we faced the world as it really is. At the IWA's inaugural National Economy conference *Making Wales Business Friendly* in February 2010, Professor Robert Huggins and Dr Stevie Upton showed that the GVA per capita of Wales is the lowest in the UK at 74.36 (UK=100).¹ In fact, the last time it was over 90 per cent was in the 1890s.²

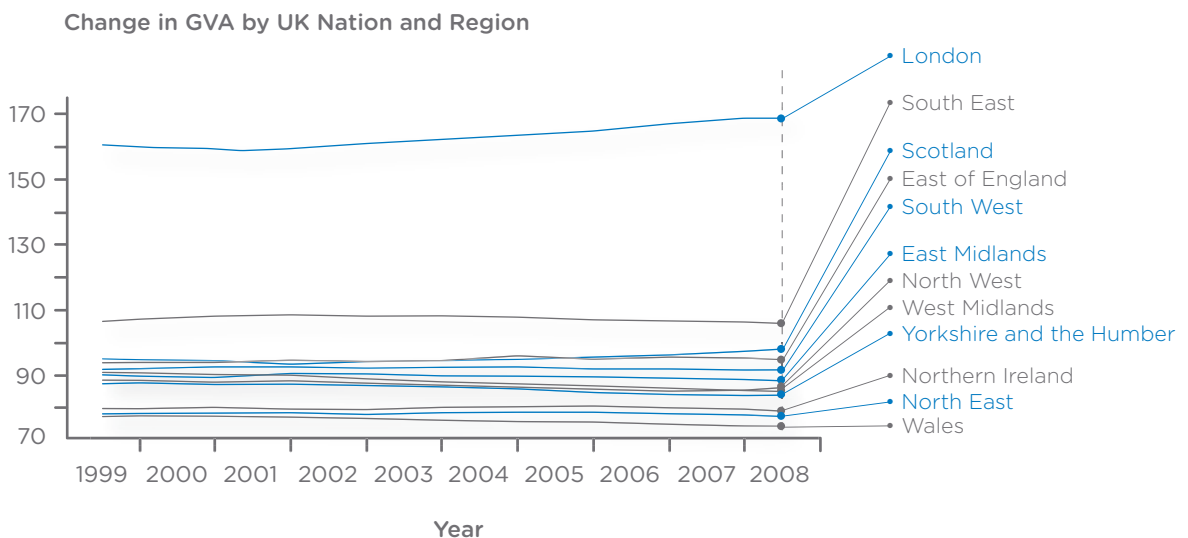
This situation is real, will not go away and has actually deteriorated over the last ten years, as shown in Figure 5.³ Other measures of competitiveness also confirm Wales's position at the bottom of the UK league table. Wales has fewer listed companies, fewer exporting companies, lower levels of mergers and acquisitions activity and lower levels of research and development than anywhere else in the UK.⁴ Yet Wales spends more per head than any other part of the UK on economic regeneration (see Figure 6). In its 2009-2010 annual budget, the Welsh Government allocated over £300 million to economic development, with nearly half of this directed at its Flexible Support for Business programme.⁵

Something is wrong. Well-intentioned efforts by many public servants over many years have clearly not worked. There has been a long-term systematic failure. This, in part, is based on flawed policy and its bureaucratic implementation that has seen £ millions of UK taxpayers and European money wasted on:

- Numerous empty business parks in inappropriate locations across Wales.
- A dubious legacy of successive business support interventions, including the Entrepreneurship Action plan, the Innovation Action Plan, the Technium initiative, Business Eye, and Flexible Support for Business.

This situation goes back to the 1920s, exacerbated by the decline of Wales' traditional heavy industries. No government, of any colour, whether at Cardiff or Westminster, has had any meaningful impact on this long slow decline. More worryingly, those areas of Wales that have seen some improvement have

FIGURE 5: Wales's long-term decline in GVA per head compared with the UK. Source: ONS



Approximate Per Capita Economic Development Spend in Wales and the English RDAs

RDA	Per capita spend 2009/10 (£)	2009/10 Rank	Per capita spend 2006/7 (£)	2006/7 Rank	Per capita spend 2004/5 (£)	2004/5 Rank
WDA/DE&T	107	1	112	1	95	2
ONE	97	2	110	2	107	1
YF	61	3	64	4	65	3
NWDA	58	4	55	6	40	6
AWM	55	5	58	5	60	4
LDA	50	6	78	3	55	5
EMDA	36	7	43	7	35	7
SWRDA	30	8	36	8	28	8
EEDA	24	9	25	9	14	10
SEEDA	20	10	24	10	22	9

Sources: 'Impact of RDA Spending', PwC, 2009; www.bis.gov.uk; Statistics for Wales (SDR 46/2009); www.gos.gov.uk

FIGURE 6:
High level of Welsh economic development expenditure

also experienced a decline on some measures over recent years. For example, the GVA per head of Cardiff and the Vale has actually fallen to nearer the UK average since it peaked at 110 in 2003. While Cardiff University was ranked seventh in the UK Research Assessment Exercise rankings in 2002, it fell to 21st in 2008.⁶ Focusing investment on need only creates more need and does nothing to exploit the opportunities that exist to transform the Welsh economy. The evidence is compelling.

And it seems we are in denial. How often do we hear we have 'world class' companies, universities, or transport in Wales? Certainly, we have some and a few more could be. Overall, however, in reality we are far from world class. We have become homogeneously mediocre and that has to change.

Given this depressing analysis, is there any hope? There are some positive signs. But we need to carefully nurture the opportunities that do exist. Rather than pointing the finger and apportioning

blame, now is the time for a cold hard look at the state of Welsh economy. What are we doing to address the challenges we face? What has worked and what hasn't? We need to be honest, rational and prepared to learn from around the world, even if that means discarding some deeply held views and policies. This new approach will also mean establishing new delivery mechanisms and organisations with a focus on implementation and delivery that combine the best of both the public and private sectors.

It is too early to judge whether the recent changes in direction, announced by the Welsh Government in its Economic Renewal Programme in July 2010, will address the fundamental issues holding back the Welsh economy. However, that strategy has identified investment in essential business infrastructure as its first priority. On that basis, there is scope for optimism and the prospect of embracing and investing in opportunity.

The opportunity presented by the Capital City Region

There has been a partial transformation in parts of Wales over the last 30 years. Cardiff is unrecognisable from the post-industrial city it was in the 1970s with its abandoned docks, and is now one of the UK's leading cultural and sporting locations. The city has also raised its profile academically, with Cardiff University a member of the Russell Group and demonstrating international excellence on a broad front. The region also has other universities such as UWIC, Glamorgan and Newport developing areas of expertise in fields such as creative media and business.

Commercially, we have seen the financial services sector in Cardiff grow from a very low profile to one that now boasts a £1 billion listed company. In sectors such as the media and the life sciences there have also been positive developments, with a wide range of new and leading enterprises emerging in the

last ten years. In fact, in recent years employment growth in Cardiff has outstripped almost all other UK cities and the majority of that growth has been in the private sector. Between 1998 and 2008, Cardiff contributed around 40 per cent of the total private sector employment growth for the whole of Wales.⁷

In their 2006 report *Cardiff – A Competitive European City?* Michael Parkinson and Jay Karecha found that Cardiff provides employment for nearly a third of the working population of its neighbouring authorities, as shown in Figure 7.⁸

This trend is continuing, re-enforcing Cardiff's pre-eminent role in its wider city region. These same figures also demonstrate the strong supporting role Newport plays in the Cardiff City Region. In its 2006 publication *Ideopolis – Knowledge City Regions*, the Work Foundation found that Cardiff had one of the

FIGURE 7:
Commuting in and out flows in the Cardiff City Region (2004)

	Number of working residents (000s)	Total number working in the authority (000s)	Commuting out of the authority (000s)	Commuting into the authority (000s)	Net inflow (000s)
Cardiff	141.1	188.1	25.5	72.5	47.0
Newport	57.5	71.3	16.8	30.6	13.8
Monmouthshire	40.2	41.5	16.5	17.9	1.4
Merthyr Tydfil	21.1	19.2	7.6	5.7	-1.9
Bridgend	58.5	55.5	17.2	14.2	-3.0
Torfaen	39.0	34.5	15.5	11.0	-4.5
Blaenau Gwent	27.0	22.0	11.6	6.6	-5.0
Vale of Glamorgan	54.6	37.4	27.9	10.7	-17.2
Caerphilly	67.6	50.1	31.9	14.4	-17.5
Rhondda Cynon Taff	96.4	74.4	38.4	16.4	-22.0

Source: National Assembly for Wales



Source: The Work Foundation, "Welcome to the Ideopolis" Richard Florida, "Rise of the Creative Classes" EU, "State of European Cities" The Centre for Cities

FIGURE 8: Successful city region economies depend on a subtle interplay of many factors – the Ideopolis.

highest levels of people employed in knowledge occupations or industries in UK local authorities outside London, providing the basis for further growth and development in this sector.⁹

So, whilst its economy is still catching up with the diversity of Bristol and the depth of Manchester, Cardiff is a sign of hope. However, we need to be mindful of the ingredients of future success and the impediments to their delivery. A successful economy relies on a subtle interplay of many factors. It is all too easy to use crude outputs and symptoms of economic performance to drive the policy agenda and ignore far more important and often less obvious factors.

Lessons from around the world – cities and city regions drive economic growth

Globally, the more enlightened economies have recognised and are supporting the development and growth of cities and city regions. In 2003 the Work Foundation's *Welcome to the Ideopolis* presented the key characteristics of successful city regions which included good regional and international connectivity.¹⁰ In 2006, this leading policy organisation also published *Ideopolis – Knowledge City Regions* which made the case again for connectivity, leadership and the city region as components of successful knowledge economies (see Figure 8).¹¹

In 2002 Richard Florida's *The Rise of the Creative Class*

highlighted the role of city living in terms of attracting the most talented and entrepreneurial workers.¹² Some years later the Centre for Cities briefing, *City Leadership: Giving City Regions the Power to Grow*, argued for large city regions to control the budget, policy and its delivery for matters such as transport and economic regeneration.¹³ The European Commission's *State of the European Cities* report also demonstrated that the size of a city is a factor in determining economic growth.¹⁴ It found that large cities and city regions with populations over 500,000 serve as "strong economic engines", while those over 1,000,000 are among the fastest growers.

Sifting through these and the many other contributions to this debate, one can distil a number of ingredients that contribute to the success of city regions. These include, but are not limited to:

- A population which is culturally diverse and has sufficient critical mass to enable a wide range of high value economic activities within a high quality urban environment.
- Academic excellence at all levels but especially the presence of a globally respected university.
- Governance and finance to direct the development and implementation of region-wide matters such as transport and economic regeneration.
- Strong City and City Region leadership able to articulate and implement a clear vision.
- Access to capital and ideas, and a supply of entrepreneurs able to exploit them to build and grow new high value businesses.
- Local and international connectivity, that enables people to move quickly and easily, combined with easy access to international markets.

The last two features are influenced by transport infrastructure, which is one of the most important features of a successful city region.

Good transport is a key feature of successful city regions

The importance of transport to the economy was also underlined by the key findings of Sir Rod Eddington's transport study commissioned by the UK Government in 2006.¹⁵ This identified a lack of capacity on transport networks, particularly in the UK's principal city-regions, as a major impediment to business investment and growth. To tackle these problems and reduce the cost of congestion, Eddington recommended that central and local government should focus on:

- Travel to work patterns in those urban areas that make the biggest contribution to the economy and are experiencing the most rapid growth.
- Inter-urban corridors between metropolitan areas.
- The principal international gateways through which freight and business travellers pass.

These recommendations were re-enforced by two reports published by the Centre for Cities in 2010, *Beyond the Boundaries* and *On Track*.¹⁶ In particular, they argued the case for investment in rail infrastructure to support the economy and emphasised the importance of a regional focus for strategic matters like transport and economic development.

Aside from directly contributing to city region economic performance, effective intra regional transport enables people to move between home and work quickly, cheaply and sustainably, helping to disperse housing demand away from the urban core. Effective transport also makes the urban core more accessible to more people, making such locations more suited to new or expanded business ventures. Further, they can provide a cohesive framework for the city region to act and behave as a single entity. These are all challenges facing the Cardiff City Region today.

A transport vision for the Capital City Region

A 21st Century transport system supporting an economic renaissance

Given the importance of transport to the economy, we should assess what the current urban geography of the Cardiff City Region presents in terms of its connectivity. The Cardiff City Region (Cardiff, Newport, Vale of Glamorgan, Bridgend and the Valley local authorities) has a population of 1.4 million, all within 20 miles of the centre of Cardiff; that's half the population of Wales living in a 'conurbation with hills'.¹⁷ This population is expected to grow significantly over the next 25 years, especially in Cardiff.¹⁸

London, a global centre of commerce and finance, is only 130 miles away; Heathrow, a gateway to the world, only 120 miles away. The Bristol City Region, with a population of over one million, which is performing better than Cardiff, is only 30 miles away; while Swansea, a City Region population of about half a million, is 40 miles away. Within the region itself, the Heads of the Valleys are only 20 miles from Cardiff.

Around the world many city regions, with similar urban dimensions, enjoy high capacity urban and inter regional transport connectivity. It is time for a more

enlightened city region approach to public transport for Cardiff, recognising that a radically improved transport infrastructure will help address a long-term decline in our economic fortunes. The following are ambitious but achievable objectives:

- Development of a Cardiff Metro combining heavy and light rail to enable travel from the Heads of the Valleys to Cardiff Central four times an hour in less than 40 minutes.
- Links to the Bristol City Region to enable travel from Cardiff Central to Bristol Temple Meads four times an hour in less than 30 minutes.
- Links to the Birmingham City Region to enable travel from Cardiff Central to Birmingham New Street four times an hour in less than 60 minutes.
- Links to the Swansea City Region to enable travel from Cardiff Central to Swansea four times an hour in less than 30 minutes.
- A step-change upgrade of the Great Western Rail Corridor to enable travel from Cardiff Central to London and Heathrow twice an hour in less than 80 minutes.

FIGURE 9:
1.4 million
people live
within 20
miles of
Cardiff



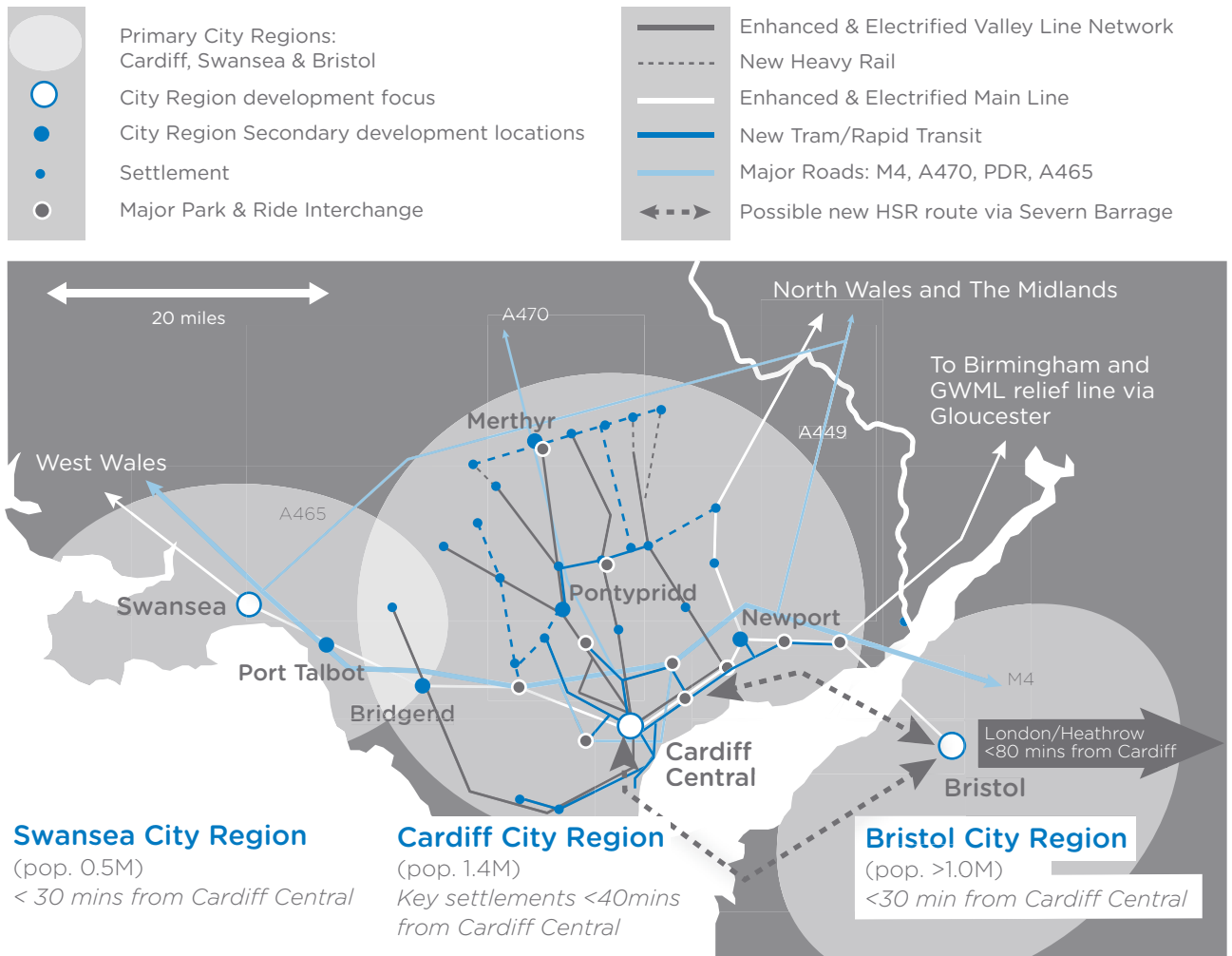


FIGURE 10: Potential Cardiff Metro combined tram/rapid bus transit and electrified heavy rail network.

The Cardiff Metro

The legacy of the coal industry has provided the Cardiff City Region with a large compact rail network. With vision and investment, it could be transformed and extended into a 21st Century urban transit system unlike anything else in the UK – the Cardiff Metro. This would entail:

- Comprehensive electrification.
- Improved track and signalling.
- New, faster, higher capacity and more efficient electric rolling stock.
- Some extensions of the existing network.

The heavy rail network would be augmented by new tram or tram-train routes. As shown in Figures 10 and 11 these would include:

- A new tram line south-east from Beddau and Creigiau to Cardiff and on to the Bay.
- A new rapid bus transit linking Maerdy with Llantrisant.
- With Tram links to Penarth, Barry and Cardiff Airport.
- A tram link alongside the south Wales mainline between Severn Tunnel Junction and Cardiff

Key features:

- Mix of electrified heavy rail, light rail and bus rapid transit
- Max 40 minute travel from periphery to Cardiff or Newport
- Max 15 minute wait at network periphery
- Max 5 minute wait at network core
- Other transport modes fully integrated with regard to timetables and ticketing
- Economic “regeneration” focussed on Cardiff Central & key interchanges

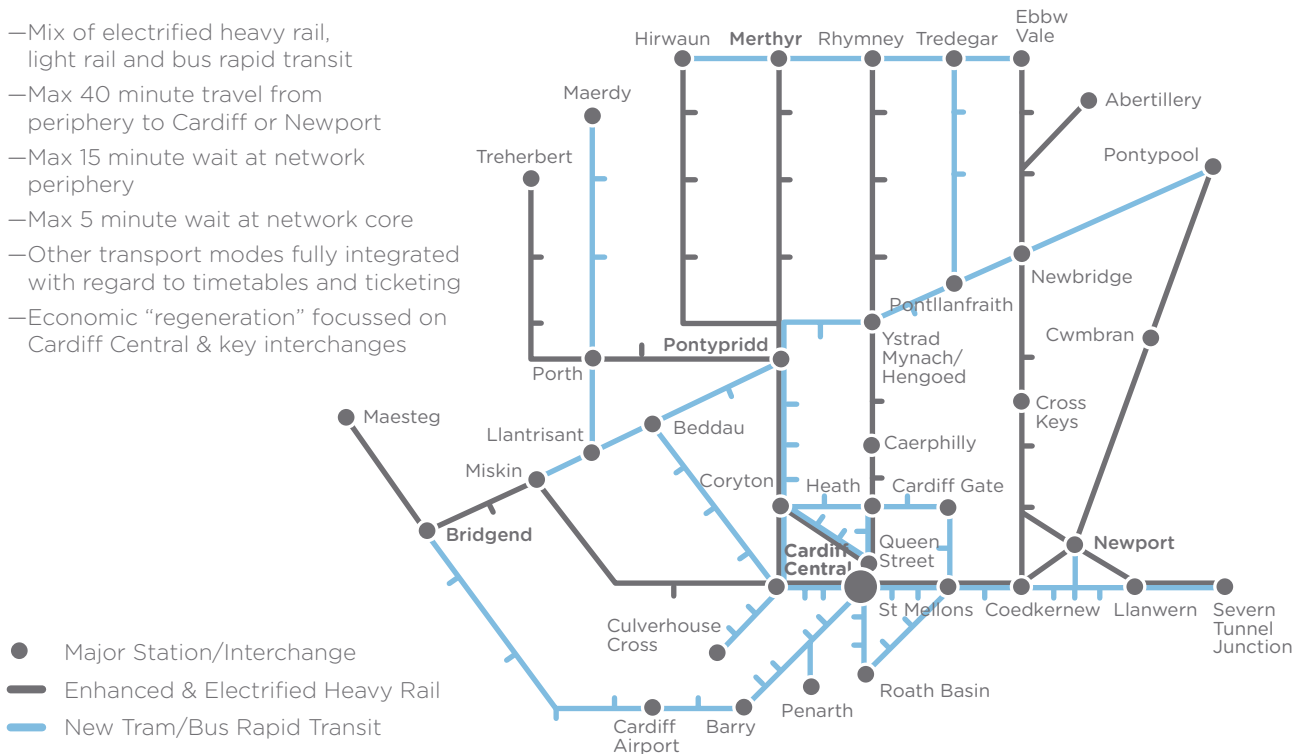


FIGURE 11:
Illustrative Cardiff Metro map

Central to serve intermediate stations.
 — Perhaps a cross Valley rapid bus transit from Pontypridd to Newbridge.

New stations on this integrated network would widen access and reduce car dependency, for example Wentloog, Splott, Llanwern, and Roath. Suitably located park and ride schemes would be aligned to sub regional transport hubs, for example Miskin, St Mellons and near the Severn Bridge.

To reduce journey times from the Heads of the Valleys, some of the trains from these locations

would not stop between Pontypridd and Cardiff Central. New Light Rail systems would provide the bulk of the travel capacity for passengers originating within, say, five miles of Cardiff Central. Bus services and their timetables would ensure that transfer times between modes were minimised. Smart ticketing systems along the lines of London’s Oyster card would enable tickets to be purchased for journeys involving bus, train or tram throughout the region.

These are not new ideas. The 2008 Wales Spatial Plan update also makes a positive statement

FIGURE 12:
Key components of a Cardiff Metro

Complete electrification of 80 miles of the Great Western Main Line from Bristol to Swansea. The quoted £1.1 billion cost of electrifying the Line from London to Swansea, including the lines to Oxford and Newbury and via Bath, covered a total track distance of approximately 250 miles, of which 80 miles are from the Severn Tunnel to Swansea. This cost also includes grid connectivity and a project risk factor. This suggests a cost of £4 million per mile.	Potential Cost £300m
Upgrade track, signalling and electrification of the existing 130-mile Valleys heavy rail network at £3 million per mile. This is lower than the £4 million mile assumed for the Great Western Main Line, as nearly all the Valley lines are two track whereas some of the main Great Western lines in England and between the Severn Bridge and Cardiff are four track.	£400m
Lay new track or enhance existing track for rapid transit, for example Beddau to Cardiff Central to Roath Basin; from Pontypridd to Newbridge via Hengoed; Cardiff Central to Newport via Roath Basin; Taffs Well to Cardiff Central - assume 50 miles at £20 million per mile. This network could be delivered in phases.	£1,000m
Some new Heavy Rail extensions or enhancements, for example to Hirwaun, Abertillery.	£50m
Station/interchange upgrades and park and ride sites, especially major nodes – including Cardiff Central, Merthyr, Pontypridd, Hengoed, Newport, M4 Park and Rides.	£250m
Integrated ticketing and passenger information systems	£100m
Cardiff Metro rolling stock assumptions, although some or all of these costs could be spread over the life-time of the rolling stock under a leasing arrangement. A fleet of 100 'off the shelf' trains at a unit cost of £1.5 million.	£150m
Possible Total Investment	£2-2.5Bn

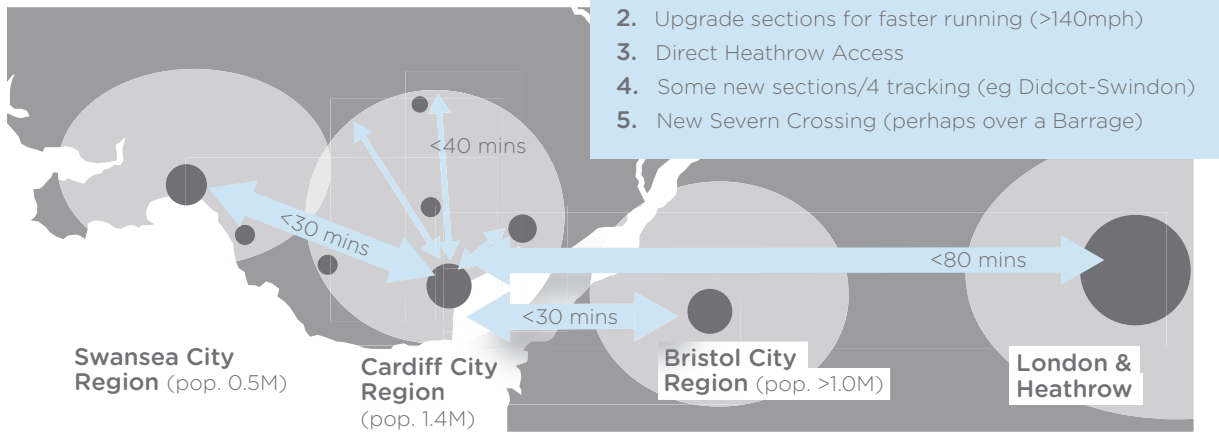
of intent in these terms as regards transport in the Cardiff City Region:

“A fully integrated high quality transport system is necessary... Over the 20 year horizon of the Wales Spatial Plan, all the area’s key settlements should be linked to Cardiff or Newport by suitable high capacity public transport.”¹⁹

Professor Stuart Cole and the Wales Transport Strategy Group outlined a similar vision in their March 2009 Paper *Railway Infrastructure in Wales, The Challenges of the Next 25 Years*.²⁰ The South East Wales Transport Alliance made a comparable case in their submission to the National Assembly’s Enterprise and Learning Committee in 2009. There have also been numerous studies undertaken over the last twenty years into a Cardiff Rapid Transit system. However, none of these studies has left the drawing board. It is time to take positive action. A visionary scheme along these lines would enable people to move around the region, quickly, cheaply and sustainably, changing the urban context and the Welsh economy permanently and for the better.

How much might such a radically improved transport system cost? This paper is presenting a vision and not a detailed business case. However, an investment of around £2.5 billion over ten years would deliver most of the Cardiff Metro illustrated here. As a comparison, the Manchester Metrolink Tram system is about to undergo a £1 billion expansion

FIGURE 13:
Priorities for upgrading the Great Western Main Line corridor



to nearly treble the size of the existing network. Meanwhile, Transport Scotland is planning to spend £3 billion during 2009-2014 to enhance its rail network.

The cost also pales into insignificance when compared to the £40 billion or more of public money committed to the high-speed rail link between London and Birmingham and Crossrail, and the £34 billion Network Rail will spend across the UK as a whole in during 2009-2014. Figure 12 provides the outline costs for the major components of a Cardiff Metro.

High Speed Rail Links to London and Heathrow

As regards London and Heathrow connectivity, a new dedicated high-speed rail line from London and Heathrow to Cardiff and Bristol would be the preferred outcome. This would directly serve a combined population of more than three million in the Cardiff, Bristol and Swansea City Regions. If the rest of South Wales and South West England were also included, then a total population of nearly six million would benefit. That's more than Scotland and comparable with the combined cities of Northern England. The Welsh Government and Cardiff and Bristol City Councils are now articulating

a strong case for this scheme, but in the face of the overwhelming lobbying for UK high-speed rail on a north-south axis.

In reality, a dedicated London to Bristol and Cardiff high-speed line will take until at least 2035 to deliver. In advance of that, given the straight, flat alignment of most of the Great Western Main Line, it may well be possible to upgrade this route to a higher specification than 125 mph at a fraction of the £18 billion cost for the first section of High Speed 2 from London to Birmingham. In addition to the electrification of the Great Western line to Swansea, this upgrade will require some new track, new signalling (the European Railway Traffic Management System), some new sections, for example access to Heathrow, and new high speed electrified rolling stock. This is actually a more pragmatic approach given that a true high-speed rail link between Cardiff and Heathrow and London will, almost certainly, be delivered incrementally. The first essential step will be electrification of the Great Western Main Line, as shown in Figure 13.



FIGURE 14:
The Inter-City Express Programme will deliver a new fleet of trains.

New rolling stock

The Inter City Express Programme will provide a new fleet of trains that will serve the entire UK intercity network, the costs of which can be amortised over the 30-year life of the new rolling stock. In his review of the programme, Sir Andrew Foster also identified a number of lower cost alternatives, for example removing the need for bi-modal diesel-electric trains that could still deliver high-speed electric rolling stock with a lower price tag than the £7 billion originally quoted.²¹ The ongoing deliberations on electrifying the Great Western Main Line seem to be centred on the question of what inter-city rolling stock to procure.

In its negotiations on the Inter City Express Programme, the UK coalition government should also include a requirement to deliver electrified trains capable of speeds of at least 140 mph and ideally higher to make full use of Brunel's legacy. With further enhancement of line speeds and some new sections the majority of the route between Paddington and Cardiff should be capable of running at more than 140 mph.

With a pragmatic rolling stock strategy and additional investment in the track, as suggested by the Bow Group in their report *The Right Track*, a step change in connectivity and performance between Cardiff and London and Heathrow could be delivered before the first high-speed express departs from the new Euston station.²²

In addition to the £1.1 billion for electrifying the Great Western line, spending of a further £2-3 billion by the UK Government and perhaps £1 billion by the Welsh Government on a more ambitious upgrade, is likely to have a better return than from the £18 billion required for the high-speed to Birmingham. These benefits can also be realised more quickly, given that a Great Western route upgrade will not have to deal with the planning minefield the high-speed line from London to Birmingham has to navigate.

It is imperative therefore, that Wales and South West England continue to make the case for a high-speed rail strategy that seeks to encourage economic development and connectivity between all the UK's major city regions, including Cardiff and Bristol.

Cardiff: A radical idea for the Welsh economy

Building on this step change in intra and inter regional connectivity, the Welsh Government and Cardiff County Council should direct their efforts and resources at encouraging collaborations between the public, private, and University sectors to facilitate commercial development and high value job creation in and around the centre of Cardiff, with the city's Central Station area as its focus. The transport improvements set out above will make this location the most accessible point for the largest number of people in the entire Cardiff City Region in a door-to-door, travel to work time of less than 60 minutes. Cardiff Central is also best placed for access to London and Heathrow.

There are still significant opportunities for commercial development in and around the centre of Cardiff that need to be exploited. This would mean re-considering schemes like the International Business Park at Junction 33 of the M4. Whilst the International Business Park proposal addresses the lack of high quality office space in the region, its location is on a motorway junction, remote from major population centres and with no public transport access. Furthermore, one of the criteria used to

select the site was its location in an assisted area.²³

It is time to let the private sector deliver schemes like the International Business Park and locate them where they feel the opportunities and not the grants, are greatest. It's no surprise that the largest company in Wales, Admiral Insurance, is building its new headquarters in the centre of Cardiff and not on a motorway junction. This is the best location for its staff, who come from all over the wider city region, not just in terms of accessibility, but also in relation to the services, amenities and facilities available to them in the centre of Cardiff. These are important and often overlooked factors.

It is also worth noting, that Admiral short listed five sites, all within half a mile and less than ten minutes walk from Cardiff Central Station. All were able to accommodate its need for 220,000 square feet of office space, capable of housing 3,000 people. These locations included Callaghan Square, the nearby Capital Quarter scheme on Tyndall Street, Dumballs Road as well as a site close to Cardiff International Arena.

FIGURE 15: Cardiff Central should be the hub of a new city region economic strategy.

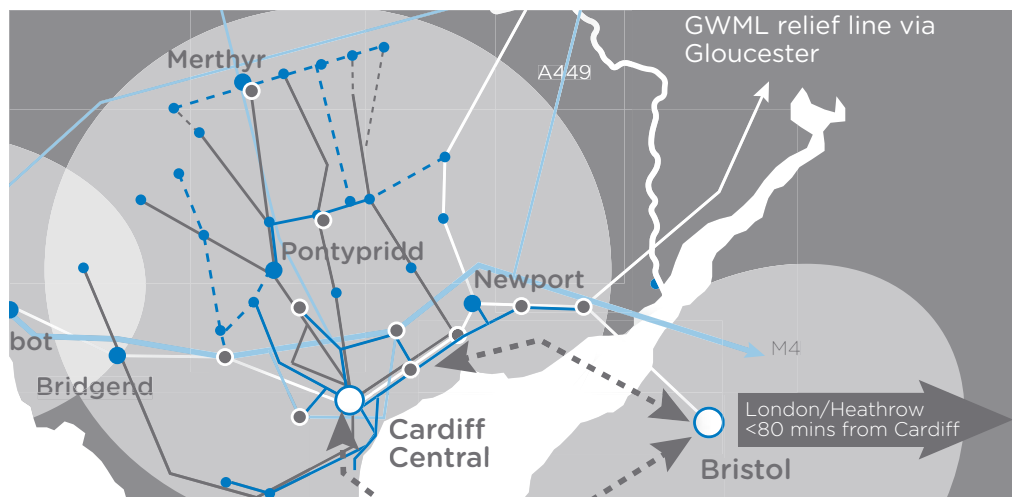




FIGURE 16:
 Artist's impression of Admiral Insurance's new 11-storey headquarters that will open close to Cardiff Central in January 2014.

Rather than developments at locations such as Junction 33, Roath Basin and outside the centre it could be argued that there are better located and serviced sites in the centre of Cardiff itself, able to provide well in excess of the million square feet of office space proposed at J33. There also exist opportunities for business park type developments adjacent to the Great Western Main Line and the M4 at several locations between Cardiff and the Severn Bridge. In terms of employee accessibility and desirability of location, the most optimal area is between Cardiff and Newport.

Delivering a step change in connectivity along the Great Western corridor will also enable people, ideas, and capital to flow more readily and easily between Cardiff and London and Heathrow. London is a global commercial centre that is the primary source of venture capital for new and expanding businesses throughout Europe. Consequently, a step change in connectivity with London will radically enhance the economic prospects of the Cardiff City Region.

Similarly, improved links with Heathrow will vastly increase the number of international flight destinations that are realistically available to Cardiff, thus improving its international connectivity. As the

busiest international airport in the world, with 90 airlines transporting nearly 70 million people to 180 destinations, access to Heathrow is critical.

Benefits of a Cardiff Metro and high-speed rail links to London and Heathrow

The delivery of the Cardiff Metro and high-speed rail links to London and Heathrow would make a significant contribution to reversing the long-term decline in Wales's GVA per head compared with the rest of the UK. It would deliver a wide range of strategic benefits, including increased economic activity, a reduction in CO₂ emissions, and completion of the regeneration of inner Cardiff.

Increased Economic Activity

We may find, for example, that the establishment of a research and development facility by a global life science company will now be more likely in Cardiff. This is because the organisation's advising consultants have included the city on the location short list due to its good access to London and Heathrow and the proximity of a Russell Group University. At the same time, London and European venture capital firms and private equity investors who historically hadn't considered Cardiff, will now include it in their 'locations to consider investing' list. Similarly, a financial institution may consider establishing a back office operation in Pontypridd because it will be possible to travel from there to London in less than 100 minutes.

Newport may become a more attractive location for UK government functions moved away from London. This would not just be because of better links to London but because relocated staff feel improved connectivity with Cardiff and the wider Cardiff City Region makes Newport a more attractive proposition. So, whilst a primary focus on the centre of Cardiff for economic regeneration is a fundamental component of the Cardiff Metro strategy, opportunities to exploit appropriate and complimentary developments at other key locations on the network, must also be pursued. These include Newport, Pontypridd and key development locations with easy access to the M4 and the Great Western Main Line, including Miskin, St Mellons and Llanwern.

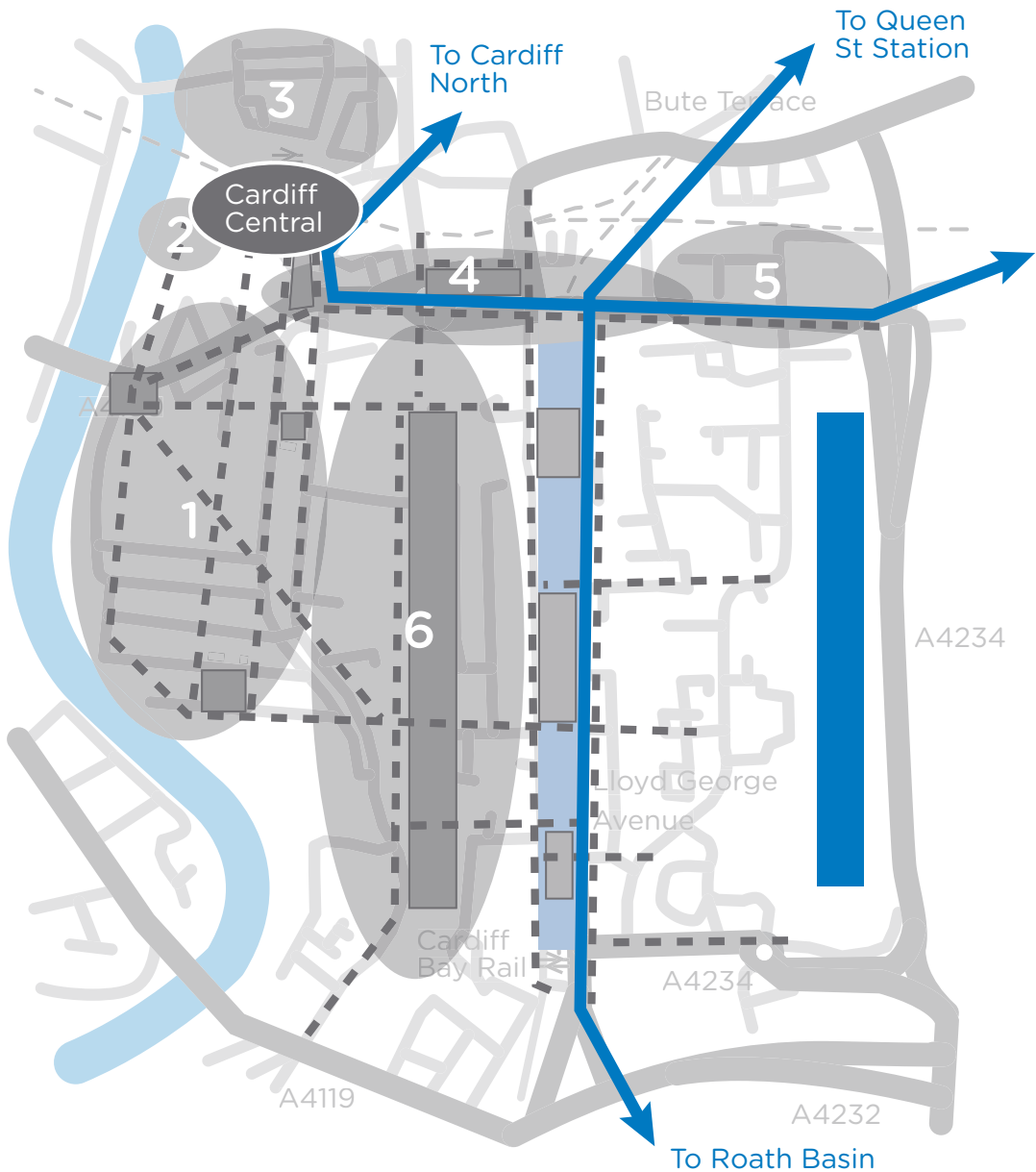


FIGURE 17:
Illustrative plan for the redevelopment of Cardiff centre and Butetown to 2025.

- Cardiff Central Transport Hub & Commercial Development
- - - New enhanced/redesigned road in block/grid pattern
- New Tram/bus rapid transit
- New/enhanced park/public space
- Lloyd George Avenue mixed use development
- ① Havannah Quay mixed use development
- ② New River Basin, water bus stop & mixed use development
- ③ Central Square commercial development
- ④ Callaghan Square commercial development
- ⑤ Capital Quarter mixed use development
- ⑥ Butetown neighbourhood regeneration and enhancement

Key principles

- Tight block/grid street pattern
- Building heights 4-10 stories
- Removal of Herbert Street bridge
- Reduced scale of Lloyd George Avenue
- City Centre-Bay-Roath Basin-Barrage rapid transit
- Development along heavy rail route
- Strong E-W routes from river, across Butetown, to Atlantic Wharf
- High quality public squares/spaces
- Active street fronts
- Range of housing (“un-gated”)
- Parking at rear or underneath new developments

The Metro would provide the means to complete the work of “reuniting Cardiff with its Waterfront”.

Enabling rapid, regular travel from the Heads of the Valleys to Cardiff will also make employment opportunities in the city available to the population of the entire city region. Bringing ‘people to the jobs’, rather than trying to ‘bring jobs to the people’ will build on the undoubted potential of Cardiff to support the economic regeneration of the entire city region. This could help address, at last, the serious issues of unemployment and economic inactivity that plague the upper Valleys. It surely makes far more sense to spend taxpayers’ money to achieve this rather than trying to lure footloose companies to locate in a less than optimal location with short lived grants that leave no legacy. We have seen this policy fail to deliver for the long term far too often.

Similarly, faster and easier connectivity between the Cardiff, Swansea and Bristol City regions will allow suppliers in one region to more easily interact and deliver services to customers in the other. This may help these regions collectively behave in some respects as one larger Severnside entity that can compete with the largest conurbations across Europe. In the United States a comparable region might be the San Francisco Bay Area which has a population of more than five million.

Reduction in CO₂ emissions

Stimulating a major modal shift in the region from car to public transport will have a significant impact on reducing CO₂ emissions and Wales’s currently high carbon footprint. This will be even more the case if the electricity used to power the network is drawn from renewable sources. A similar shift from car and air travel to rail for those travelling to Heathrow and Schiphol (Amsterdam) airports would also make a positive contribution.

Regeneration in Cardiff

Within Cardiff itself, the Metro System would facilitate the removal of the Bute Street rail embankment and the Herbert Street Bridge and offer the prospect of high quality, high density commercial and community developments along Lloyd George Avenue and to the east of Callaghan Square. The Metro would provide the means to complete the work of “reuniting Cardiff with its Waterfront”. This project stalled through lack of agreement between Network Rail, the Welsh Government and Cardiff Council on how best to address the urban design, regeneration, transport and commercial challenges presented by Lloyd George Avenue.

In the area around Cardiff Central and Callaghan Square, the Metro will provide the potential for Cardiff to realise its ambitions for a larger commercial centre. As importantly, the development would help integrate Butetown into the fabric of the city and address many of the issues resulting from its physical isolation.

A regeneration strategy should also embrace block/grid street patterns, some new north to south and east to west routes, active street frontages, building heights of four to ten storeys, and generally a mixed urban pattern including affordable housing (illustrated in Figure 17). The objective should be to create the look and feel of urban centres of leading European cities such as Bordeaux and Barcelona. After all, Butetown *is* the link between the city and its waterfront, a fact that has been overlooked for far too long.

The regeneration will also benefit some of the primary landowners, especially Network Rail. A Cardiff Metro could potentially double the number of passengers passing through Cardiff Central every year. This increased footfall would support an increase in commercial and retail activity in and around the station. Network Rail also own a significant amount of land on the strip between Lloyd George Avenue and Bute Street. Currently used by the heavy rail link between Queen Street and the Bay, some of the land could be released for development.

Modal travel shift

The Cardiff Metro would deliver a major modal shift from car to train. A survey undertaken by Cardiff County Council in 2009 estimated that every working day there are approximately 360,000 car based passenger journeys to/ from/in Cardiff during a 12 hour period for all journey purposes. In contrast only 40,000 train based journeys were counted, three-quarters of which pass through Cardiff Central. This analysis indicates a car to train ratio of nearly 10:1. Inherent in that statistic is a significant opportunity for a major modal shift to train.

What light rail can do for cities, a report commissioned by the Passenger Transport Executive Group, showed that light rail has removed 22 million car journeys a year from the UK's roads and is generally six times more effective than buses in tackling traffic congestion.²⁴ Additionally, it showed that where there was significant investment in light rail the result was a peak time shift from car to tram of around 20 per cent, while road traffic was cut by up to 14 per cent.

These figures relate to what are often stand-alone tram schemes that sit alongside other forms of public transport. The proposed Cardiff Metro will deliver

a step change in public transport for the entire city region through comprehensive electrification and the introduction of rapid transit. As a result it could generate a modal shift well in excess of 20 per cent. If just 20 per cent was delivered, then of the current 360,000 journeys into and out of the city centre not using the train, perhaps a further 70,000 could be converted into Cardiff Metro journeys. This would deliver a ratio of perhaps 4:1 for car to train use. At £2 per passenger journey that could generate over £40 million per year in additional ticket revenues. If park and ride schemes, coupled with limits to city centre traffic access, were systematically put in place, the potential could be much higher.

Two clear benefits would result. One is a reduction in road traffic and CO₂ emissions. Secondly, the higher footfall at the primary stations will make these locations more attractive to commercial developers. This will be especially true at Cardiff Central which will be the start and end point for most of these additional journeys, adding significantly to its current 11 million annual footfall. This will make Cardiff one of the UK's major transport hubs with, potentially, in excess of 20 million entries and exits per year.

FIGURE 18:

Investment in light rail results in a passenger shift from road to passenger trams.



“The benefits from improved rail connectivity are not just confined to commuting trips to work. An improved network of local services would also help to strengthen wider linkages across the city region, and the frequency and quality of local services will also lead to new interchange opportunities for longer distance travel”.

The case for intra and inter City Region transport investment

These benefits are not illusory and are deliverable, as a wide range of recent studies exploring the wider economic benefits of a range of rail infrastructure schemes demonstrate:

- A Greengauge 21 investigation into the regional economic impact of the High Speed 2 London to Birmingham link indicated a negative influence on the economies of Wales and South West England.²⁵ However, the report goes on to say, that a commensurate investment in a high-speed link from London to Cardiff and Bristol would have a similar positive impact on economic activity in Wales and South West England as is predicted in the Midlands and Northern England.
- The Leeds and Sheffield City Region Partners commissioned Arup to explore the impact of rail improvements on their economies. Their calculations estimate the annual productivity gains arising from improvements to the East Coast Main Line at £8.4 million (discounted to 2002 prices), whereas high-speed rail would produce gains of £23.5 million.²⁶ The report also found that delivering an improved local rail network could deliver economic benefits for the city region. As it said, “The benefits from improved rail connectivity are not just confined to commuting trips to work.

An improved network of local services would also help to strengthen wider linkages across the city region, and the frequency and quality of local services will also lead to new interchange opportunities for longer distance travel”.

- A recent KPMG report commissioned by the Passenger Transport Authority for the West Midlands, found the high-speed link between London and Birmingham would boost the West Midlands’ economic output by £600 million, create 10,000 additional jobs, and bring an average wage increase of £100 a year for each worker.²⁷ However, combining the high-speed link with enhancements to local and regional rail services in the West Midlands would generate a £1.5 billion increase in economic output, create 22,000 new jobs and see an average wage increase of £300 a year. Comparative benefits for Cardiff and its city region could be delivered through high-speed rail and a Cardiff Metro.
- Studies on the impact of Dublin’s Light Rail system on the economy and urban development of its city region also present positive findings.²⁸ The metro system increased the use of public transport and reduced car dependant urban sprawl. It also stimulated regeneration of local centres as a result of increases to land values, and created more housing, and other commercial activity near metro

stations. This is a particularly important message for the Valleys communities.

— In March 2010, the Passenger Transport Executive Group, which represents the passenger transport executives for Liverpool, Newcastle, Leeds, Birmingham, Sheffield and Manchester, launched a further study in its ongoing campaign to increase spending on city region transport networks. Their report, *Transport Works – the case for investing in city regions*, presented their case for the close connection between transport investment and city region economic performance. It highlighted the relatively low levels of transport investment in major English cities outside London compared to the leading city regions in Europe, the importance of city region governance and funding to address city region transport challenges. This analysis for these leading English city regions can be equally applied to Cardiff and south-east Wales.

— In another report Network Rail also argued that wider economic issues and benefits such as those highlighted above, need to be included when making decisions on investment in rail and transport infrastructure.²⁹ The report contends that a new approach to investment decisions must:

– Capture how investments can change the size, location and type of economic activity.

- Consider how an investment attracts unemployed people into the workforce.
- Provide a level playing field for closely related sectors in the pursuit of economic objectives, so that transport, regeneration and housing can be compared against each other and combined to maximise economic returns.

Given the undoubted wider economic benefits that a Cardiff Metro and dramatically improved connectivity with London and Heathrow could deliver, it surely makes sense to explore the potential quantitative impact of their implementation as a matter of urgency.

Current Capital City Region transport performance

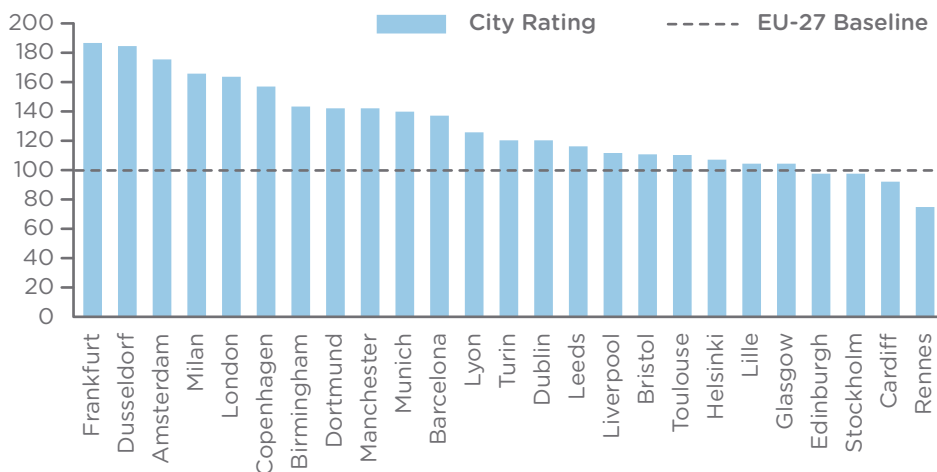
Cardiff's role as the focal point of the wider City Region is underlined by travel patterns. For example, according to the Welsh Labour Forces Survey, between 2002 and 2006 commuters from outside Cardiff increased by 12 per cent, from 69,000 to 77,000.³⁰ The numbers travelling from Rhondda Cynon Taff increased by 20 per cent and those from Caerphilly by 19 per cent during this period. However, fundamental weaknesses in the transport infrastructure, its confused governance and limited funding are constraining the development of the entire city region and undermining Cardiff's increasingly important regional role.

Cardiff itself has not seen any major transport improvement since the last section of the Peripheral Distributor Road, from Culverhouse Cross to Cardiff Bay, was opened in 1995. Lack of funding means the

completion of the final crucial section, the Eastern Bay Link to the A48 east of Cardiff, is as far away now as it was in 1995. On a daily basis, the roads into and within Cardiff are often at a standstill as commuters drive in from Newport, the Vale of Glamorgan, Rhondda Cynon Taf and Caerphilly. Meanwhile, the new M4 around Newport has been shelved indefinitely.

In the entire Cardiff City Region, which contains half of the Welsh population, the only major road schemes recently completed or under construction are the Church Village by-pass plus the improvements to the Heads of the Valleys Road. There are no road schemes in the City itself. On the Valley lines, one can find the oldest rolling stock in the UK, bursting at the seams at peak times, struggling with an undulating and temperamental Victorian infrastructure.

FIGURE 19:
Cardiff's relative air connectivity



'The much discussed and eagerly anticipated, electrification of the Great Western Main Line from London to Cardiff will only restore journey times between Bristol, Cardiff and London to those we enjoyed in the 1970s.'

Cardiff has relatively poor links in both UK and international terms

Within the Cardiff City Region it currently takes 60 minutes to travel the 20 miles by rail from Merthyr to Cardiff Central, albeit with services now twice an hour thanks to recent Welsh Government investment. Equally depressing are the current journey times of 50 minutes between Cardiff Central and Bristol Temple Meads, 60 minutes for Cardiff Central to Swansea and two hours for Cardiff Central to Birmingham New Street. This really is not good enough given these stations are only about 40, 40 and 100 track miles from Cardiff respectively. Meanwhile, timetable constraints and congestion on the Great Western Main Line only allow Cardiff to London journeys of around two hours ten minutes.

The much discussed and eagerly anticipated, electrification of the Great Western Main Line from London to Cardiff will only restore journey times between Bristol, Cardiff and London to those we enjoyed in the 1970s. Perhaps by 2018 we can expect journey times for Cardiff to London of one hour 45 minutes, and maybe Cardiff to Heathrow of two hours 30 minutes. This, when the UK government is planning to deliver journey times, on a new high speed line between London and Birmingham of 49 minutes, and between London and Manchester of one hour 20 minutes.³¹

Professor Michael Parkinson and Jay Karecha,

of the European Institute for Urban Affairs explored Cardiff's relative connectivity in their 2006 report *Cardiff – A Competitive European City?*³² This benchmarked Cardiff against other leading cities in the UK and Europe and considered the factors impinging on future competitiveness. The report rated Cardiff 34 out of 51 in terms of connectivity by rail and road, just above the EU average. This position is not commensurate with what is expected of a competitive international capital. The same report also concluded that Cardiff has even poorer accessibility by air, ranked 47 out of 51 EU cities in the recent EU Urban Audit (see Figure 19).

This condition was recognised by the Department for Transport in its 2002 review of *Future Airport Capacity in the UK*.³³ This found the leakage of passengers to other regions, mainly South East England Airports and specially Heathrow, was about 65 per cent for both Wales and South West England, the highest in the UK. For each region, the total annual trips were estimated at 3.4 million and 7.2 million respectively. That was 10.6 million in total, with about 6.5 million using Heathrow. Most of these Heathrow journeys were by car indicating a latent demand for better Great Western Main Line connectivity to Heathrow.

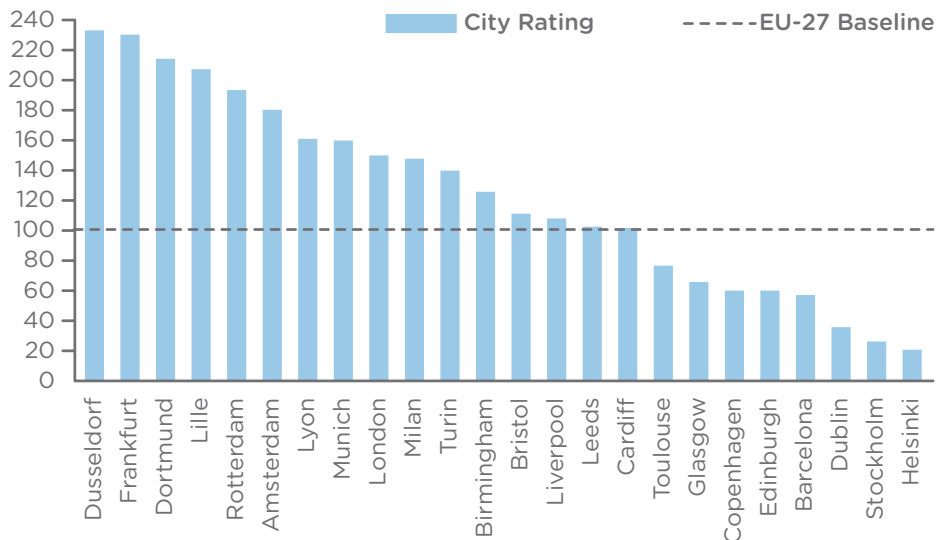
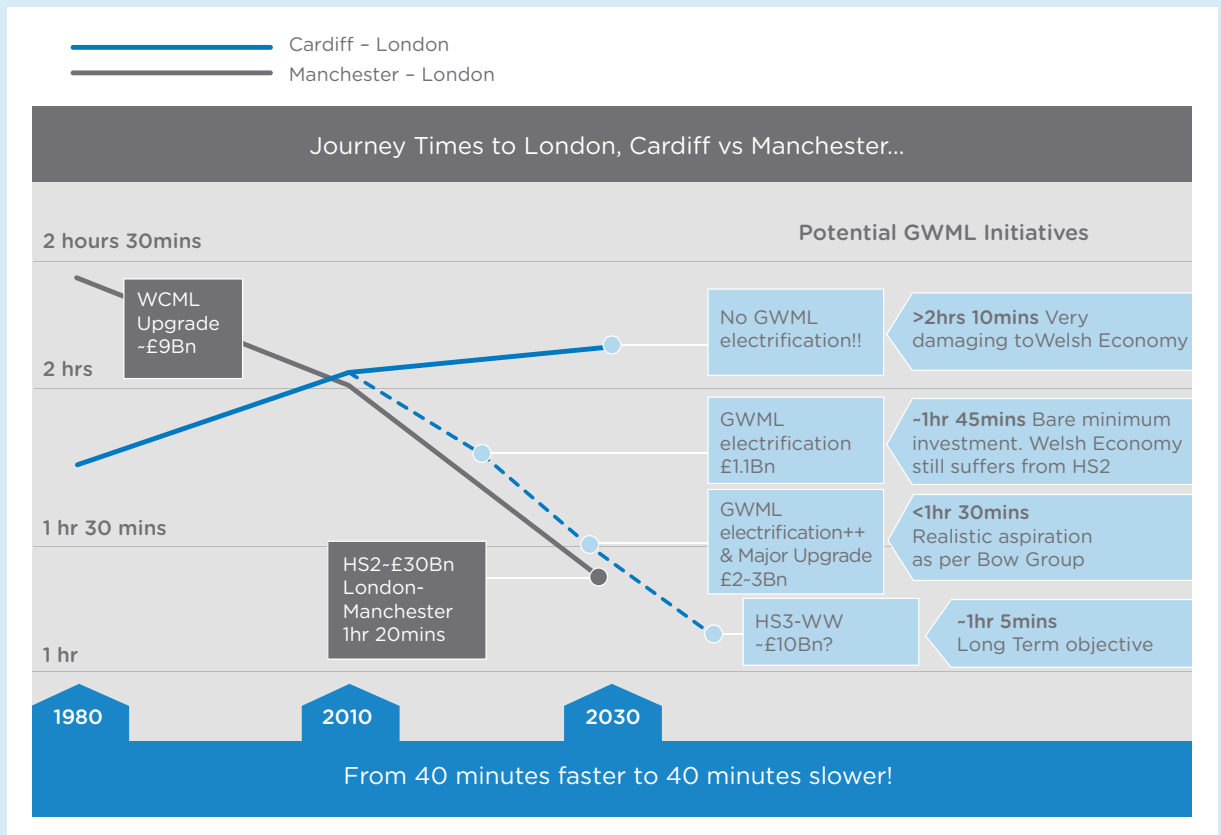


FIGURE 20:
Cardiff's relative rail connectivity

FIGURE 21:
Cardiff and Manchester's links to London, 1980-2030.



The report also made some other relevant statements:

“.. it does appear that Wales is suffering in attracting inward investment because it does not offer a wide range of air services to European centres.”

“It is important for Wales to maintain access to key London airports, especially Heathrow and Gatwick. Even if Cardiff was to provide a much wider range of services and frequencies than it currently offers, it is likely that a large number of Welsh air passengers would continue to use airports in the South East of England.”

“Their [South East England airports] route networks especially for long haul, will continue to be wider than the route networks offered by regional airports. Links to London are also important, particularly for the business community.”

These judgements should be set against a situation in which Wales continues to be disadvantaged by competitive transport investment elsewhere. Over the last twenty years multi-billion pound upgrades of the East and West Coast Main Lines have resulted in Leeds and Manchester having comparable or faster rail journey times to London than Cardiff, despite being 50 miles further away (see Figure 20).

The current plans for a new £30 billion high-speed rail line from London to Birmingham, Manchester and Leeds (High Speed 2) will only exacerbate this growing differential to the detriment of Wales' economic prospects. Certainly, this is a conclusion of Greengauge 21, the UK's leading lobby group for high-speed rail.³⁴ Their work shows that the economies of Wales and South West England will suffer as a direct consequence of the current High Speed 2 proposals. Furthermore, that work assumed that the Great Western Main Line would be electrified. Without electrification, the prognosis is even worse. Figure 21 describes Cardiff's worsening rail distance from London compared with Manchester between 1980 and 2030.

The confused governance structure of transport

The rail industry's confused governance makes efficient operational working difficult and radical change almost impossible. Rail infrastructure in Wales is the responsibility of the Department for Transport in London rather than the Welsh Government in Cardiff. This means that Welsh needs are considered within an England and Wales context. As a result Wales is invariably at a disadvantage, evidenced by our low levels of rail investment compared with the UK as a whole.

Rail's situation in Wales was further exacerbated in 2006 when the Welsh Government took over the management and funding of the Arriva Trains Wales franchise, following the 2005 Transport Act. Established in 2003 by the now defunct Strategic Rail Authority, the franchise is set to run until 2018, without any provision for increased demand or expansion. Yet, since 2003 passenger numbers and demand on the network have increased significantly.

We often hear that rail management in the UK is overly complex; in Wales it is even more so. The Welsh Government is responsible for the Arriva Trains franchise, while the Department of Transport in London is responsible for the infrastructure. Furthermore, as shown below, the Department of Transport process for prioritising rail enhancements on an England and Wales basis has resulted in Wales securing only about two to three per cent of available UK funds for rail.

Systematic under funding of rail infrastructure is holding the Welsh economy back

In the months following the general election and later the Comprehensive Spending Review, the UK government signalled its intention to progress with more than £50 billion of rail capital projects over the next fifteen years, including:

- CrossRail (about £15 billion)
- High Speed 2 London to Birmingham (about £18 billion) and onto Manchester and Leeds (more than £10 billion)
- Manchester Metro Extension (about £1 billion)
- Thameslink, rolling stock and capacity increases (£8 billion)
- Newcastle Metro, Sheffield Rail enhancements (£1 billion)
- Great Western Main Line electrification to Reading, Newbury, Didcot and Oxford (about £500 million)

Set against these major investments, and given the economic arguments in favour, it seems inconceivable there will not be a positive decision on progressing with the full £1.1 billion Great Western electrification to Swansea and a new fleet of InterCity Trains early in 2011. This scheme is also a necessary precursor to the eventual introduction of high-speed rail for the more than six million people who live in South Wales and South West England.

However, recent history tells us we will have to argue for this investment. For example, in their letter to the National Assembly's Enterprise and Learning Committee on 18 November 2009 Network Rail indicated a total spend of £204 million on the Arriva Trains Wales network during 2009-10. If one extrapolates over the five years of investment to 2014, this suggests Wales will receive perhaps £1 billion out of a UK total investment of £34 billion.

At best this is 3 per cent, compared with a Welsh population of 5 per cent of the UK. It also probably represents a high water mark because of the work planned with regard to the Newport and Cardiff re-signalling project. Historically, a figure of less than two per cent maybe more likely. Surprisingly, ten years after the creation of the National Assembly, the

same letter also confirmed that Network Rail does not maintain a separate budget for Wales or even the Wales Route Utilisation Strategy area.

Consequently, the small number of schemes completed in Wales (for example re-opening the Ebbw Vale and Vale of Glamorgan lines) have been funded, in the main, by the Welsh Government and not Network Rail. This is money out of the Welsh Block Grant which includes sums hypothecated for health, and education and so on, but not rail infrastructure. In effect, Wales is having to pay twice for such schemes.

In November 2009 Network Rail announced a £3.5 billion Stations Improvement Programme for the next five years, which included £85 million for Wales. At less than 2.5 per cent of the total, the Welsh share was again lower than its 5 per cent of the UK population would justify. Furthermore, the plans make no specific mention of Cardiff Central, even though it has more than 11 million passengers passing through it a year.³⁵ This makes it one of the busiest stations on the entire UK network outside London, handling more passengers than Newcastle, Nottingham, Sheffield or Bristol Temple Meads. Cardiff Central is also the hub of one of the largest urban rail networks in the UK.

Given its strategic importance, it is disappointing that visitors and commuters alike gain a negative impression from the poor state of the environment in and around the station. In contrast, improvement schemes of greater than £50 million have been completed or are planned at Edinburgh Waverly, Edinburgh Haymarket, Leeds, Reading, Nottingham, Manchester Piccadilly, Birmingham New Street, Liverpool Lime Street, Manchester Victoria and most London Terminals. As argued earlier, Cardiff Central and its immediate environment should be at the heart of the economic regeneration strategy for the entire Cardiff City Region. The Welsh Government, the Department of Transport, Network Rail, Cardiff County Council and the local business community need to work together to make the most of this opportunity.

Over the past few decades in England there have been major upgrades of both the East Coast and West Coast main lines, new tube lines, numerous urban tram systems, the East London Line, the High Speed 1 Channel Tunnel link, Crossrail, and major

station refurbishments.

When funding and powers over rail infrastructure were devolved to Scotland in 2005, it enabled Transport Scotland, with its £380 million a year allocated within the block grant from Westminster, to direct Network Rail to invest in a wide range of schemes. Transport Scotland is now planning to spend £600 million per year to 2014 to transform its rail infrastructure, with new lines, electrification, and trams. The Scottish investment includes £130 million at Edinburgh Waverly Station and £300 million for the Airdrie-Bathgate rail link. This step change in investment was only made possible through devolution of powers and funding.

By comparison the Welsh record is bleak. Wales has no miles of electrified rail, no trams, the oldest and most inappropriate rolling stock on the Valley Lines, and undercapitalised stations. In fact, since the opening of the Severn Tunnel in the century before last the only major rail upgrade in Wales was the introduction of the 125 High Speed Train – albeit that none of the track in Wales, even today, enables it to run at 125 mph.

It is argued that rail investment should address capacity constraints and be directed where passenger demand is greatest. It is no surprise, therefore, that the West and East Coast Main Line corridors are currently prime targets. The investment they have received over the last 20 years has increased passenger numbers and contributed to the case for investment in the High Speed 2 link to Birmingham. Had the Great Western Main Line been electrified and upgraded in the 1990s, the case for a high-speed line on the Great Western Corridor would undoubtedly be far stronger.

Network Rail works to high standards as its regulatory obligations demand. Its investment plans and funding decisions are fully compliant with the demands of the Department for Transport and the Office of the Rail Regulator. However, there is growing evidence that these arrangements have a structural weakness that has led to ongoing under funding in Wales when compared to the UK as a whole. Indeed, the shortfall is certainly well into the £ billions.

This funding gap was effectively summed up by the National Assembly's Enterprise and Learning Committee, in their January 2010 report *Future Rail*

“This inquiry has left us with the distinct impression that Wales is not getting its fair share of investment in rail infrastructure, or getting it fast enough: programmes to electrify track, to improve stations and to upgrade rolling stock seem destined to reach Wales well behind other parts of the UK.”

Infrastructure in Wales, which concluded:

“This inquiry has left us with the distinct impression that Wales is not getting its fair share of investment in rail infrastructure, or getting it fast enough: programmes to electrify track, to improve stations and to upgrade rolling stock seem destined to reach Wales well behind other parts of the UK.”³⁶

Whilst many in Wales accept tough decisions have to be made in the current financial climate, it is rather more difficult to support the delay or cancellation of the £1.1 billion Great Western Main Line electrification scheme when over £50 billion of schemes elsewhere in the UK seem to have been safeguarded. Without a strong business case focussed on the wider economic benefits and a greater UK government appreciation of the economic impact of rail investment in this part of the world, Wales will continue to suffer a significant under investment in its rail network and connectivity when compared to the rest of the UK.

Success in Welsh Rail

Notwithstanding the challenges and constraints of governance and funding there have, nonetheless, been some notable successes in Welsh rail investment in recent times. These demonstrate that more ambitious investment in the Welsh rail network would deliver major economic benefits. Successful schemes include:

— £30 million was invested to reopen the Ebbw Vale Line to Cardiff for passenger traffic in 2008. This involved re-instating 18 miles of freight track and opening six new stations. In the first year the 570,000 passengers who used the line significantly outstripped the 400,000 anticipated. This scheme is seen as a great success and has opened up employment opportunities in Cardiff for thousands of people from Risca to Ebbw Vale.

- The Vale of Glamorgan line which re-opened in 2005, could achieve similar figures if train frequencies were increased from one an hour to two or three an hour.
- The Cardiff to Merthyr Frequency Enhancement Programme, completed in 2009, introduced two services an hour and enhanced station facilities along the route.
- There are plans for major enhancements at Cardiff Central and Queen Street stations as part of the £400 million Cardiff Area Signalling Programme between 2010-14. This will allow greater capacity and operating frequency on the Valley lines.³⁷
- £22 million has recently been spent to upgrade Newport Station in time for the Ryder Cup.
- Demand for rail in Wales grew by 46 per cent between 1992 and 2006.³⁸ This trend is forecast to continue with an estimated growth of 23 per cent from 2005 to 2016, although it could be as high as 35 per cent.
- Network Rail’s major overhaul of Reading station will improve operational flexibility and reduce both timing and capacity constraints on the Great Western Main Line between South Wales, South West England and London.

The Department for Transport, the Welsh Government, and Network Rail should be commended for these schemes and improvements. They demonstrate what can be achieved when parties work together. However, to develop and deliver the Cardiff Metro, a step change in investment will be needed. We will also need appropriate governance structures as well as the establishment of operational bodies with the capability and expertise to implement major infrastructure projects.

What is needed to deliver a Capital City Region Metro

The vision of a 21st Century transport infrastructure for the Cardiff City Region set out in this paper will entail overcoming some pretty tough obstacles before it can be realised. As a minimum we will need imaginative new approaches to raising capital, a shake-up in local government to create a new governance structure for the Cardiff City Region, more dynamic leadership, and a new willingness for our leaders across the public and private sectors to collaborate much more closely and effectively.

Securing the funds and associated statutory powers over rail infrastructure

Whilst the total cost of a Cardiff Metro needs to be fully explored, broad brush estimates for this visionary scheme suggest it could be delivered for perhaps around £2.5 billion. Assuming rail powers and funding have been devolved, if the Welsh Government were to invest a further £1 billion for a more ambitious upgrade of the Great Western Main Line in south Wales beyond the baseline electrification, then perhaps a total of £3 billion to £3.5 billion would be needed over ten years or so.

Alongside putting the 'wires up', the Welsh Government would have to fund or part fund, a new crossing over the Severn and contribute to the cost of new high-speed electrified rolling stock. The rolling stock costs can be spread over their 30 year-plus lifetime, and shared proportionately with England given they will also serve Bristol and South West England. This level of Welsh Government funding also assumes that the Department for Transport in England delivers the £800 million to electrify the Great Western Main Line from London to the Severn tunnel and ideally more to remove operational constraints and enable faster running.

Based upon historic levels of investment by the Welsh Government on major transport projects, this will require a step change in funding. However, those funds are available if we are radical enough to secure and direct them at this opportunity. At around

£300 million a year for ten years, it is well within the capacity of the Welsh Government. Following the Autumn 2010 Comprehensive Spending Review, the Department for Economy and Transport alone will have an annual budget of some £800 million over the next three years.

First and most importantly, the Welsh Government and the Secretary of State for Wales need to press the Department for Transport to secure full devolution of rail powers and funding to Wales in respect of the core infrastructure, as is the case in Scotland. Given the current Network Rail control period now runs until 2014, in practical terms we should aim to secure a full transfer by 2014 at the latest.

Depending on future government subsidies to a more vertically integrated rail industry, devolution of rail powers could provide about £2 billion over ten years for Wales to invest in its rail network. In parallel, the Welsh Government needs to build up its expertise and capacity to develop and implement major rail and urban transit schemes, along the lines of Transport Scotland. It will also be necessary to put in place a new franchise agreement for Wales that reflects the higher passenger levels that the Cardiff Metro will attract. A new franchisee for Wales could be a Welsh Government arms-length not-for-profit organisation along the lines of Welsh Water/Dŵr Cymru.

We should also explore how the existing Welsh transport budget could be enhanced and better directed. The Economy and Transport department spent £1.25 billion in 2009-2010, about £500 million of which is spent annually on local and trunk roads throughout Wales.³⁹ The vast majority of the Welsh Government's current £150 million rail budget is used to subsidise the Arriva Trains Wales franchise. If the Valleys network was upgraded as proposed, the increased patronage may enable a future franchise to be offered with a much lower subsidy.

Is the Welsh Government directing resources at the most economically important and effective schemes? The Institute of Directors Wales, in their review of the 2009 Wales Transport Strategy, and

the Ministerial Advisory Group on the Economy and Transport, in their 2009 Phase 2 Transport Report, both said that transport policy is overly subservient to social and environmental considerations. They concluded there was too little emphasis on transport's primary function to support the economy. The Ministerial Advisory Group also identified an urgent need to restore capacity and reliability to the main east-west strategic corridors, as well as tackling urban congestion, both of which seem to have fallen in priority. A brief look at the Welsh Government's Forward Trunk Road programme clearly indicates the lower profile afforded to the Cardiff area.⁴⁰

The Coalition Government has also committed to explore the use of Tax Increment Financing. This will enable local authorities to borrow against extra business rates to pay for additional new developments, for example a major regeneration initiative in and around Cardiff Central Station. A further source of investment funds could come from road pricing. Whilst not currently on the political agenda, it may well prove pivotal in delivering the Cardiff Metro. To be 'turned on' once a substantial part of the new Metro network was operational, road pricing could enable significant funds to be made available as well as acting against road congestion and CO₂ emissions.

There is also the potential of using European structural funds. Although it is likely that Wales will lose support beyond 2015, any money available now and in the period to 2015 could, with political will, be made available to contribute to the delivery of the Cardiff Metro. This final tranche of European money could bequeath us a lasting legacy for the support Wales has received from the EU before the tap is

finally shut off.

Finally, the Welsh Government could also explore issuing bonds to help cover the initial development costs to deliver the vision. Based upon far higher passenger numbers on the Cardiff Metro, we may find that a future franchise that includes this network will not need the large subsidy currently enjoyed by Arriva Trains. Assuming a lower franchise subsidy, then some of the £150 million a year currently used to subsidise it could be used to fund a bond issue to bring forward capital funds to accelerate the implementation of the scheme. Similarly, it may be possible to issue bonds based on future revenues from the road pricing systems to add to the capital funds necessary to deliver the vision.

By adding the funds transferred from Westminster for rail to those funds already within the Welsh Government's current block grant, European money, plus funds from a potential bond issue plus Tax Increment Financing scheme, then a £3 billion investment over ten years to deliver the vision set out above is both possible and affordable. Moreover, given that most of the investment will be in the period post 2015, the Cardiff Metro and Great Western Main Line upgrade need not be caught up in the UK's immediate need to address the structural budget deficit.

It is time to accept that the old medicine is not working and halt questionable social and economically ineffective interventions. Instead we should focus funds on 'opportunity' and invest in a Cardiff focussed economic strategy based upon Cardiff City Centre and rapid connectivity to and from London and Heathrow and within the wider Cardiff City Region.

A further source of investment funds could come from road pricing. Whilst not currently on the political agenda, it may well prove pivotal in delivering the Cardiff Metro.

Adopting a Cardiff City Region approach to local government

Wales has three million people and 22 local authorities. Is this too many? Even the largest, Cardiff County Council, with 336,000 people, is too small to compete on an even footing with the leading cities and city regions across Europe.⁴¹ Because of its limited resources, the Council is unable to act on its own to address many of the major issues it faces, especially transport policy. Instead, it undertakes schemes that while welcomed locally, do nothing to address the strategic challenges of its wider city region.

Meanwhile, although the South East Wales Transport Alliance attempts to provide a regional approach to transport, its lack of funding or statutory powers make it merely a regional lobby group. Development of a coherent transport strategy, especially as regards rail and light rail, will be impossible until the overly complex and relatively powerless governance of transport in the Cardiff City Region is replaced by an organisation with the authority and finance to ensure its delivery.

The 1.4 million population of greater Cardiff reside in an area not much bigger than Greater Manchester which, with a population of 2.5 million already benefits from its own dedicated Passenger Transport Authority. This has the powers and funding to tackle strategic transport issues on a city region basis. Similarly, in south-east Wales the 'Capital Network', as the Welsh Government calls it, should be formally reconstituted as the Cardiff City Region, with powers and funding over key regional functions, especially transport.

Limitations of the Wales Spatial Plan

Many officials and politicians will say there is already a Cardiff City Region approach in the Wales Spatial Plan developed by the Welsh Government.⁴² And, certainly, positive aspirations can be found within its stated priorities for transport infrastructure. However, these also contain confusing and contradictory statements, such as:

"The area will function as a networked city region, on a scale to realise its international potential, its national role and to reduce inequalities".

"Strategic interventions, focused on regeneration and investment in the most deprived areas of the Capital Region, should be along sustainable transport corridors and support the key settlements".

"The success of the Area relies on Cardiff developing its capital functions, together with strong and distinctive roles of other towns and cities".

What is a 'capital function'? What are the 'distinctive roles' referred to for other towns and cities? These statements appear vague, un-focussed and are the result of a committee-based approach to the plan's preparation. The three sub-regions identified in the 'Capital Region' reflect the increasing levels of economic inactivity the further from Cardiff one gets. They do not provide any kind of city region basis for economic development.

As a result, the potential and opportunity presented by Cardiff is overlooked. Instead the emphasis is to spread economic activity throughout the region rather than making the area with the most employment opportunities, Cardiff, more successful and more accessible to the city region as a whole. This is a fundamental weakness in approach and one which fails to recognise the real nature of a successful city region.

The Plan also sets out an aspiration for governance and implementation in the following terms:

"A well-governed city region with community involvement and strategic national engagement."

However, whilst this intention is laudable, no serious effort has been made to develop the governance structures, funding sources and economic focus necessary to implement the Spatial Plan on a region wide basis. For example, as has already been demonstrated, South East Wales Transport Alliance is not able to take up the transport challenge because of its lack of funding and executive authority.

Disappointingly, the Wales Transport Plan, published in March 2010, makes only two references in non-specific terms to the 'South East Wales City Region' (not, it should be noted, to a Cardiff City

Region). It neglects to highlight the importance of intra regional connectivity to the economic success of the region as a whole. Instead, the plan focuses on less strategic considerations for the next five years.

Similarly the recent Welsh Government strategy *Economic Renewal: A New Direction*, published in July 2010, makes no mention of the Cardiff City Region.⁴³ Indeed, the document refers only three times to 'Cardiff' and only once to 'rail'. Consequently, we must continue to argue the case for Cardiff and rail connectivity between it and its wider city region to be the focus of our economic renewal strategy.

This paper presents a way forward to deliver the public transport intent of the Wales Spatial Plan as regards the Cardiff City Region. However, implementation will require strategic investment in our transport infrastructure and a rationalisation of at least some local government functions, certainly transport, based on the city region. In the tough times ahead, we have to put a larger Cardiff City Region at the heart of economic and transport policy.

A City Region Approach is being adopted across the UK and Europe

The city region debate is already advancing in England and Scotland with structures beginning to emerge that embrace the concept and its importance to economic regeneration. In July 2007 the Treasury published its review of sub-national economic development and regeneration, which stated that the government would allow those city regions that wished to work together to form a statutory framework for city regional activity, including powers over transport, skills, planning and economic development.

Under the last UK Government's Transport Innovation Fund, city regions can band together to pilot forms of road pricing, such as the Manchester Congestion Charge considered by councils in Greater Manchester (but later rejected by referendum). In the April 2009 Budget, the then government announced that Greater Manchester and Leeds would be the first two city regions with formal powers. From April 2011, a new body, the Greater Manchester Combined Authority, comes into being with statutory powers and funding over transport, planning and economic

regeneration. For a sobering comparison with Cardiff the following websites should be accessed:

www.leedscityregion.gov.uk
www.sheffieldcityregion.org.uk
www.tynnewearcityregion.co.uk
www.thenorthernway.co.uk
www.edinburgh-inspiringcapital.com
www.neweconomymanchester.com

Compared with the initiatives these describe, thinking in Wales is some way off the pace with regard to the city region. Across Europe, too, the city region is at the heart of economic policy, regeneration, transport and inward investment initiatives. However, in Wales, the added value role of Cardiff is yet to be fully recognised. In the heyday of the coal trade, from the 1870s to the 1920s, the city and its region has looked outwards to international markets, and felt itself to be a cosmopolitan centre. Today, however, the role of Cardiff is constrained, its ambitions stifled and its full potential unrealised.

We urgently need to adopt a city region approach in Wales so that Cardiff, with Welsh Government support, can start to behave as a stronger, larger economic unit and address the issues of the region in a strategic and coherent manner.

Leadership, Vision, Confidence and Collaboration

Very often it is not the strength of the business case, the rate of return, the cost-benefit analysis and so on that enables major schemes such as the Cardiff Metro project proposed here, to progress to a successful conclusion. More often than not, success is dependent on the vision, passion and determination of those who champion a project. Without the vision of South Glamorgan County Council and its leaders in building the Peripheral Distributor Road in the 1980s, Cardiff and especially Cardiff Bay would not have developed to the extent they have over the last 20 years.

If the vision of a 21st Century Cardiff Metro and enhanced links to London and Heathrow are to be delivered, we need similarly visionary business

Rather than hundreds of smaller initiatives, with at best questionable impacts, two or three major schemes over a ten to fifteen year period, like the Cardiff Metro, could help galvanise public support and contribute to a reversal in our economic fortunes.

leaders, political leaders and officials to embrace this opportunity and push it to the top of the economic agenda in Wales.

Aside from showing leadership, we also need the ambition and confidence to undertake truly major projects that will have a lasting impact on our economy. Rather than hundreds of smaller initiatives, with at best questionable impacts, two or three major schemes over a ten to fifteen year period, like the Cardiff Metro, could help galvanise public support and contribute to a reversal in our economic fortunes.

As has been demonstrated with schemes like Crossrail, securing backing and successfully progressing major infrastructure schemes needs a coalition of government, local authorities and business. As Crossrail also ably demonstrates, progress is also dependent on building a strong business case focussed on the economic, regenerative and commercial benefits rather than just the direct transport benefits. It is vital therefore, that the wider economic benefits that can be delivered from schemes like a Cardiff Metro and high-speed rail from London to Cardiff are quantified and put at the heart of the debate over the next few years.

As regards the upgrade of the Great Western Main Line and an eventual true high-speed line from London and Heathrow to Bristol, Cardiff and Swansea, the entire Severnside region needs to come together to continue to develop and articulate the case for this investment. The Great Western Partnership is a good first step. However, this initiative needs to be developed to incorporate

the major private sector organisations in the wider Severnside region. Such a body, with public and private engagement would be well placed to develop strategy and policy for matters such as tidal power and airport provision, as well as strategic transport matters like high-speed rail.

Operational and implementation organisation

Whilst government support, whether at Westminster, Cardiff Bay or County Hall, is essential to progress a scheme like the Cardiff Metro, it is not necessary or even desirable that government should take a lead role in its development and implementation. Whilst government has an expertise and focus on policy, it is often less adept at implementation, especially organising major infrastructure schemes.

As with bodies such as Crossrail and High Speed 2, the development and implementation of the Cardiff Metro needs a similar organisation that can deliver the scheme without the constraints that exist in government. Wales has had experience of similar bodies over the years, for example the Cardiff Bay Development Corporation. Such an organisation could be quickly established and secure the most ably qualified and expert resources from both the public and private sectors. This would be in line with recent UK government approaches to major infrastructure schemes like High Speed 2, the Olympics, and CrossRail.

Next steps

In advance of major changes to local governance and the further development of the Cardiff Metro and Great Western Main Line proposals there is work that could start quickly to develop this vision.

A Cardiff City Region Authority, along the lines of the new Manchester Combined Authority, with powers and funding over matters like transport is probably at least five years away. This is the same time frame that both the South East Wales Transport Alliance and Network Rail have worked to in their immediate five-year plans for the rail network in the region. The recently published Wales Transport Plan also works to a five-year time frame.

So, whilst we cannot deliver any radical change in the next five years we can, nonetheless, start planning for the period beyond 2015. A new executive body or bodies should be created, with a remit that includes the development and delivery of the Cardiff Metro, continued articulation of the case for high-speed rail along the Great Western Main Line, and the development and implementation of an economic development plan for the Cardiff City Region that exploits this enhanced transport infrastructure. With a small executive, overseen by a Board made up of its primary stakeholders - the Welsh Government, Cardiff County Council and the other local authorities in the region - it should be tasked with undertaking the following three related streams of work:

1. The Cardiff Metro

In the first instance, a comprehensive investigation is needed to enable a robust and deliverable scheme to be developed and implemented. This will include:

- Plans for comprehensive electrification and improved stations;
- Options for enhanced or new tram and train routes;
- An assessment of road pricing, bonds, Tax Increment Financing and passenger/revenue models.

- Estimates of capital and operational costs.

Furthermore, as initial planning work has already started for Network Rail's next control period 2014-2019, this new body needs to engage with that process so that implementation of the Cardiff Metro can begin in 2015. By this time powers and funding for rail infrastructure should have been transferred to the Welsh Government from the Department of Transport. Given their takeover of Arriva, Deutsche Bahn could be engaged in discussions leading to a renegotiation of Arriva's franchise to accommodate the Cardiff Metro. The body should also engage leading figures and organisations in the private sector to assist in developing and ultimately delivering the scheme.

2. Great Western Main Line electrification and high-speed rail

Lobbying needs to continue (alongside key partners like Bristol) to encourage the Department for Transport to undertake detailed work on exploring the options for delivering high-speed rail and quantifying the benefits to the wider Severnside region. In fact, the Department could create a holding company to develop this scheme. The Cardiff City Region authority, Bristol City Region, the Department for Transport, the Welsh Government and others should oversee the work of this group.

If nothing else, such a body will ensure oversight and coordination of a number of interrelated schemes including high-speed rail Heathrow access, the Intercity Express Programme, Great Western Main Line electrification, the introduction of a European Rail Traffic Management System, and station improvements, especially at Reading, Cardiff, and Bristol Parkway.

Once the initial analysis is completed, we may find that the cost/benefit case for an early high-speed upgrade of the Great Western Main Line is

Conclusion

more compelling than that presented for the London to Birmingham and Manchester lines.

It is also imperative that Great Western electrification goes ahead as any high-speed rail for Wales and South West England will almost certainly be delivered incrementally from this baseline.

3. Economic Development

In parallel with the development of the Cardiff Metro, this body, with associated powers and funding, will drive and execute the continued development of Cardiff Central, the Bay and other key locations on the Cardiff Metro, for example Newport, Pontypridd, and Bridgend. The primary landowners, developers and some of the larger businesses in the region also need to be engaged in this activity. In relation to the development in and around Cardiff, Network Rail will have a key role to play in unlocking the potential of the Central Station, the east side of Callaghan Square and Lloyd George Avenue. In fact, the scale of the opportunity in and around Cardiff Central in itself justifies a single public/private body to develop and deliver this scheme.

This planning and preparation need not require significant funds and could be supported now, even in this tough financial climate, by drawing together a number initiatives already being undertaken by the Welsh Government, Cardiff County Council, Network Rail, and the South East Wales Transport Alliance. With a slim executive, the necessary powers and funding, an arm's length relationship with the public sector, and strong focussed leadership, the necessary planning and investigation work could be completed by 2014. By 2015 the work of this body could then be overseen by a newly formed Cardiff City Region Authority which would take forward implementation from 2015 to 2025.

Is it possible for Wales to address more than two generations of relative economic decline? Of course it is. But we need enlightened government policy, supported by the private sector, prepared to direct investment at the opportunity presented by Cardiff and its connectivity to both London and Heathrow and its wider city region.

In parallel with the transport vision set out here, further support in the region for *Ideopolis* aligned policies, for example increasing support for Cardiff University, encouraging high quality urban design and embracing radical investment schemes such as the bond issue pioneered by Welsh Water, could see the Cardiff City Region and Wales as a whole, begin to address eighty years of economic decline.

There will be those in other parts of Wales who will dismiss this paper for being too Cardiff-centric; but that is precisely the point. We have to embrace the opportunity Cardiff presents and help it and its City Region, which is home to half the Welsh population. Yes, there are issues of poor transport and economic inactivity throughout Wales that need to be addressed. However, this paper unashamedly focuses on where the most benefit can be delivered to the largest possible number of people.

It's not rocket science. Let's aim to do a few things well instead of succumbing to the slow decline of homogenous mediocrity that has characterised Welsh economic achievement for far too long.

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A Metro for Wales' Capital City Region

Connecting Cardiff, Newport and the Valleys

Mark Barry

Around the world, the success of city region economies is becoming increasingly dependent on high capacity, high quality, intra and inter regional public transport systems. Aspiring city regions such as Manchester, Leeds, Sheffield, Nottingham and Edinburgh are pushing ahead with the development and expansion of modern urban transit systems to boost their economies. This report, published in association with the Cardiff Business Partnership, says that Cardiff should do the same.

It argues that, using the electrification of Great Western Main Line as a catalyst, a Cardiff Metro linking the Welsh capital with its Valleys hinterland would create the connectivity essential to economic development in the 21st Century. This, it says, should be a major priority for the governments at both Cardiff and Westminster, and for local authorities and the business community.

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