

A Cardiff Capital Region Metro:

Impact Study: Metro Economic Impacts

October 2013



Cardiff City Region Metro

Economic Impacts

Report

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1 Introduction

Study context

- 1.1 The Metro Economic Impact Study seeks to build on the work presented in the Metro Consortium's March 2013 report '*A Cardiff City Region Metro: transform regenerate connect*', which set out a vision for a Cardiff City Region Metro focused on economic development and regeneration within the context of a strategic plan for the region to 2030.
- 1.2 As part of the study, work stream 010 is intended to support the spatial analysis (including development and regeneration opportunities) by setting out the economic impacts that could result from the investment in Metro. In doing so it is intended to inform the basis for proceeding with the development of a Metro network in South East Wales.
- 1.3 Reflecting the strategic nature of the study and the corresponding level of detail available on the transport interventions and their impact on land use development and travel patterns, the resulting economic impacts are described qualitatively. Where data is available or assumptions have been made, examples of the scale and nature of quantified impacts are set out for context.
- 1.4 The quantification of impacts should be viewed as illustrative and demonstrates the magnitude of achievable impacts. Each quantified impact is not additive and it may be expected that not all of them will be realised. Further work will be required to develop the interventions in order to deliver the required improvements in the transport network such that the indicative impacts can be more accurately valued and in turn realised.

2 Economic Impact Potential of South East Wales Metro

Background - transport and the economy

- 2.1 In 2011, Welsh Gross Value Added (GVA) stood at £47.3 billion. With a population of 3.1 million this meant Welsh GVA per head of £15,696¹, nearly 25% below the UK average.
- 2.2 The GVA per head for the Cardiff City Region is around 80% of the UK average. There are, however, large disparities within this. Cardiff and the Vale of Glamorgan out-perform the UK average GVA per head at 102% of the national average, whereas the Gwent Valleys are around 55%.
- 2.3 Over time, Cardiff has progressively worsened its competitive position, when compared to other cities around the UK such as Bristol, Edinburgh and Nottingham, declining from 110% of the national average GVA per capita in 2001 to 102% in 2011. With Cardiff and the Vale of Glamorgan accounting for over 20% of the Welsh economy in GVA terms improving the performance of the regional economy is fundamental to helping the Welsh economy as a whole close the gap with the UK average.
- 2.4 Furthermore, Cardiff City Region is forecast to grow significantly over the next 25 years, with the largest forecast increase in Cardiff itself from a current population of 348,000 to 430,000 by 2036², an increase of almost a quarter. Transport will have a key role to play in providing the capacity to enable and accommodate future growth, and to ensure that additional demand does not impose costs on businesses through increased congestion and crowding. There is little question that investment will be needed to help bring Welsh GVA per head closer to the UK average. While there are many policies and investments which can help Wales to close the gap, transport can form a central part of policy to improve its economic performance.
- 2.5 Transport can support the efficiency of businesses and support future economic growth in a number of ways. For example:
 - Transport determines businesses' effective labour market catchment. An expanded labour market enables firms to recruit from a wider skills base, and affects the attractiveness of locations. Public transport accessibility is particularly important for businesses in Cardiff, and also enables workers in the wider city region to access a wider range of job opportunities.
 - Transport enables the efficient movement of people and goods in the economy. Access to markets is essential for businesses and people within a city, within a region, between regions and internationally. An improvement in connectivity can increase the productive capacity of the local economy by reducing journey

¹ Office for National Statistics, Regional Accounts (2012)

² ONS / Welsh Government, July 2013.

times (e.g. between Cardiff and Newport) and congestion (e.g. along the M4 junctions to and from Cardiff), as well as improving connectivity between key points and increasing capacity on the rail and public transport networks (e.g. along the East-West corridor of the Valleys). Some of these benefits accrue to users, while others may influence productivity and spending in the economy.

- In addition, a transport intervention can bring wider benefits by facilitating the growth of business clusters in the larger cities (for instance around the designated Enterprise Zones and development sites) and improving the functioning of the labour market regionally through more efficient labour matching and agglomeration economies.
- Transport factors can be important in attracting inward investment. For the Cardiff City Region strategic connectivity on the M4 / Great Western Main Line corridor and to/from Cardiff Airport is vital, but needs to be complemented with strong intra-regional connectivity.
- The role of transport is critical in the context of future population and employment growth, transport provides the accessibility and capacity to accommodate growth, while ensuring the network as a whole operates efficiently. As much of the growth is forecast for the Cardiff City Region, public transport improvement will be key to supporting growth and encouraging modal shift that will mitigate the impact on the highway network.

Potential Economic Benefits of Cardiff Metro

- 2.6 In this section we present in more detail the potential economic benefits and conceptual framework that can be developed to estimate potential benefits to the Welsh economy from the Metro. As the scheme is developed further and additional details are determined, the economic impacts from the scheme could be estimated in a more accurate way and with greater granularity.

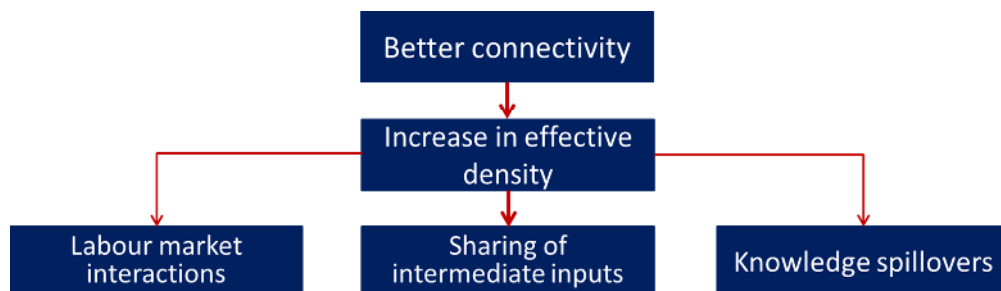
Improving Business Efficiency

- 2.7 The implementation of the Metro would have a direct economic benefit to businesses through a reduction in the generalised cost of travelling, through more frequent and reliable services and shorter journey times. Such a benefit to business travel results in a direct productivity (GVA) benefit to the economy.
- 2.8 Take the case of a professional working for Admiral in Newport, who needs to travel between different offices across the region. Improved frequency and reliability of the transport system helps to reduce the amount of time spent travelling, resulting in a direct productivity benefit to the employee and firm. As a result the insurance company would be able to increase wages, reduce prices, increase output and/or increase its profits. These types of business benefits arising from journey time savings would be enjoyed by a variety of firms across the region.
- 2.9 There are two drivers of the efficiency benefit from the Metro. First, improved public transport services will lower business travel costs for business trips made by public transport. Second, the modal shift that could occur as former car users are encouraged to use public transport means that the road network becomes less congested, and these reduce the cost of road-based business trips.

Wider economic benefits - Encouraging Urban Agglomeration

- 2.10 Following the guidance issued by the UK Department for Transport (DfT) in 2005, the assessment of economic benefits from transport has begun to include a wider set of benefits, including those triggered by agglomeration economies, imperfect competition and labour market dynamics.
- 2.11 Agglomeration benefits are, for urban areas, the largest of these benefits and have been found to typically add between 5% and 40% to the conventionally measured transport appraisal benefits. Agglomeration benefits effectively relate to the benefits of business clustering, in particular to the concentration of financial and business services in city centre locations. The evidence suggests that encouraging clustering, measured by 'effective density', can increase the overall productivity of all firms, and increase overall GVA. Cardiff has a number of key characteristics that provide significant potential for productivity benefits from agglomeration; it is the capital city and the centre of government, has the highest employment levels and existing productivity in Wales, has a high proportion of business and financial services (nearly 40% of the sector in South East Wales) and has good strategic connections to important UK and international markets, and is expected to grow significantly in the next decades. Metro has the potential to increase the 'effective density' of firms by reducing travel costs and effectively bringing them closer together.
- 2.12 A higher concentration of firms in a given location leads to a series of agglomeration benefits, including the following opportunities for businesses:
- Sharing intermediate inputs in the production process, increasing the potential market for firms along different stages of the supply chain;
 - Drawing upon a wider pool of labour, ensuring better matching between supply and demand; and
 - Sharing knowledge thanks to greater proximity and the ability to pick up new ideas.

FIGURE 1 POTENTIAL AGGLOMERATION IMPACTS OF THE METRO



- 2.13 Density is best achieved at the urban level and thus cities have become the engines of national economic development. Cardiff's population has grown by 11% between 2001 and 2011 and the number of jobs has grown by 17%. The city's population is expected to grow to 430,000 by 2030.
- 2.14 Companies have set up their headquarters in the city with a view to benefit from proximity to other businesses. For instance, a specialist team set up within the Deloitte practice in Cardiff to combat threats facing the accountancy profession,

has grown to become a multi-functional research and compliance unit against international fraud and terrorism related to money-laundering. The ability to recruit skilled consultants from other firms to set up this unit was crucial for its success, showing the importance of knowledge sharing triggered by density, as well as the ability to recruit the right employee profile.

- 2.15 Likewise, ‘effective density’ can be expressed as geographical proximity in terms of journey times between different locations. Reducing travel times leads to higher effective densities and accelerates agglomeration without the need for permanent relocation of businesses and residents. This is why transport investment is instrumental to promote local economic development, especially in the context of the polycentric and fragmented South East Wales Region.
- 2.16 The introduction of high quality rapid transit has the potential to generate higher effective densities both around key terminal destinations and along the new transport corridors. As outlined in our analysis above, the Metro could substantially increase the employment capacity of the region. This will trigger an increase in effective density. As a result, the benefits of increased agglomeration could be calculated by multiplying the change in effective density by the agglomeration coefficients suggested by the DfT³. The resulting change in the agglomeration index would need to be multiplied by the economic output attributable to the sectors reputed to be affected by these benefits.
- 2.17 Assessments of the wider economic benefits resulting from transport investment have been undertaken for several other schemes across the UK. These indicate that a variable range of positive outcomes can be expected from improved accessibility. The following table summarises the main findings for a series of projects, expressed in terms of their proportion of (conventional) direct benefits.

TABLE 2.1 WIDER ECONOMIC BENEFITS OF TRANSPORT - UK REVIEW

Location	Transport scheme	Wider impacts as a proportion of conventional benefits
London	Crossrail investment	56%
Tees Valley	Metro system with tram-train links	26%
Leeds	Urban area public transport investment	18%
Plymouth	Rail service frequency improvements	11%

Source: Rognlien (2010)

Commuting and Labour Market Benefits

- 2.18 Access to labour markets is vital to existing businesses, and can be a key factor in determining where firms choose to locate. Enhanced accessibility provided by Cardiff Metro would increase the effective labour market of firms in the City Region. For residents, transport accessibility can provide them with access to employment opportunities and increase their job search horizons. The city region

³ Graham, D et al (2010), The spatial decay of agglomeration economies: estimates for use in transport appraisal, LSE and Imperial College, London

of Cardiff encompasses both the lowest (Blaenau Gwent/ Merthyr), and the highest (Cardiff / Vale) GVA per capita in Wales, and the Metro has the potential to both support the overall growth of the economy and to reduce inequalities within the City Region by providing better connecting areas of deprivation with those where growth is likely to occur.

Labour supply impacts

- 2.19 When individuals make decisions about whether to work, how much to work and where to work, they take many factors into account. Importantly they balance the financial gains (i.e. ‘take-home wage’) against what we may call personal costs (e.g. giving up spare time). If the financial returns to work increase or the personal costs decrease, more individuals are likely to choose to work, whilst some of those who already do will decide to work more or in more productive (and more demanding) jobs.
- 2.20 Since the monetary costs of travelling to work reduce the financial gains from working, and commuting time costs increase the personal costs, the time and cost of commuting are therefore a deterrence to productivity. Investment in the Metro would reduce both types of commuting costs and therefore lead to an increase in productivity and a resulting change in employment, in the form of:
- An increase in the number of people working; and
 - A change towards more productive jobs.
- 2.21 Labour market impacts will be beneficial in the context of South East Wales, given that barriers to efficient recruitment by key employers currently exist. A number of businesses, including Centrica in Cardiff and Admiral in Newport, have publicly stated that the commuting experience of their staff has a direct impact on retention rates, as well as on recruitment processes.
- 2.22 The Metro would help overcome these barriers by providing smoother and more direct access to key employment areas from the wider region, including the Ebbw Valley and Blaenau Gwent. Better public transport links are not only needed to make commuting easier at peak times, but also to support business shift patterns and weekend operations. The younger section of the workforce (and those experiencing youth unemployment), who tend to rely more heavily on public transport given lower car ownership levels, will particularly benefit from improved access to jobs.

Sustainable Commuting

- 2.23 The Metro has a role in encouraging future economic growth to take place in a more sustainable manner. Currently most travel-to-work trips into Cardiff are made by car (58%), while the proportion of sustainable travel-to-work trips diminishes with the distance of commuting⁴. In the short-term Metro could encourage modal shift and increase the effective capacity of both the public transport and highway networks, while in the longer-term improved levels of public transport accessibility will increase the relative attractiveness of locations

⁴ Cardiff Local Development Plan Background Technical Paper No.12, October 2012

and sites that are accessible by public transport, encouraging more sustainable patterns of land use.

Valuing Potential Commuting Benefits

- 2.24 The valuation of commuting benefits within economic appraisal is based upon the overall time savings that accrue to commuters. This time saving represents the ‘first order’ effect of the transport intervention which can lead, in turn, to responses such as those outlined above such as change in job location or more people entering the labour market.
- 2.25 We have undertaken an illustrative assessment of the potential benefit of the Metro given an assumed time saving per trip⁵. On the basis of 100,000 commuters gaining an average 5 minutes reduction of journey and/or waiting times (resulting from improved frequency and/ or reliability) across the entire commuter network for Cardiff and Newport (both for public transport, rail and road users), the potential benefits could be nearly £30 million per year, in current prices⁶. Should the average time savings rise to 10 minutes per journey, benefits could total over £55 million a year.

Supporting Employment Growth

- 2.26 The Metro has the potential to provide direct economic benefits by unlocking employment opportunities, and thus has the potential to reduce unemployment in the region. There are a number of ways in which this could occur:
- Providing the transport links that are necessary to provide the access and capacity to enable employment sites to develop. In this case jobs are effectively dependent on the provision of transport.
 - Increasing the accessibility, attractiveness and viability of employment sites and locations. Making locations and sites more attractive can increase the scale and/or density of development, and help bring forward development sooner than it would otherwise occur.
- 2.27 Appendix A presents an assessment by Jones Lang LaSalle (JLL) of the potential for the strategic sites identified as part of the study. For each site the development potential, or ambition, for commercial and/or residential use is set out.
- 2.28 In order to understand the potential scale of the value of delivering increased employment capacity, the strategic sites identified as having potential for employment developments have been assessed. On the basis of assumed employment densities⁷ the potential number of employees accommodated by the developments can be estimated. It can then be assumed that the economic impact of each additional job is equivalent to the average GVA per job for Cardiff⁸.

⁵ Note that this refers to ‘generalised travel time’, which is a composite measure capturing benefits from increased frequencies, journey time reductions and quality improvements.

⁶ Assuming return trips 232 days of year and DfT value of time for commuting

⁷ Indicative employment density for B1 type (office space) and B8 type (storage and distribution) - Employment Densities Guide, 2nd edition (2010) by OffPAT and the Homes & Communities Agency

⁸ ONS, Nominal (unsmoothed) GVA per filled job; by NUTS 2 and NUTS 3 subregions, GVA for Cardiff and the Vale of Glamorgan is £39,313 (2010)

- 2.29 On the basis of this approach Table 2.2 presents the potential economic impact resulting from the provision of employment accommodation for each strategic site.
- 2.30 It is anticipated that investment in Metro will increase the likelihood that the development ambitions for the strategic sites are met. It may also accelerate the development window for each site and encourage greater density where areas are well served by Metro, e.g. around a station. Metro can therefore support the delivery of a proportion of the estimated economic impact.

TABLE 2.2 EMPLOYMENT CAPACITY OF STRATEGIC SITES

Strategic Site	Employment space potential (m ²)	Typical employment density (m ² /FTE)	Employment capacity	Potential economic impact (£m 2010)
Central Cardiff Enterprise Zone	93,000	12	7,750	304.7
Cardiff Bay	46,000	12	3,833	150.7
North West Cardiff	23,000	12	1,917	75.3
Newport City Centre	46,000	12	38,333	150.7
Llantrisant / Talbot Green	46,000	46	1,000	39.3
Treforest Ind Estate / Taffs Well	46,000	66	697	27.4
The Works, Ebbw Vale	19,000	66	288	11.3
Pill/South Newport	46,000	60	767	30.3
Glan Llyn/Celtic Business Park	139,000	60	2,317	91.0
Duffryn / Celtic Lakes	209,000	63	3,317	130.4
Pontypridd Town Centre	4,600	12	383	15.1
St Athan / Airport Ent. Zone	46,000	73	630	24.8

Source: JLL analysis of Strategic Sites

- 2.31 Assessments of direct economic benefits resulting from transport investment have been undertaken for other schemes across the UK. These indicate that a variable range of positive outcomes can be expected from improved accessibility. The following table summarises the main findings for a number of projects.

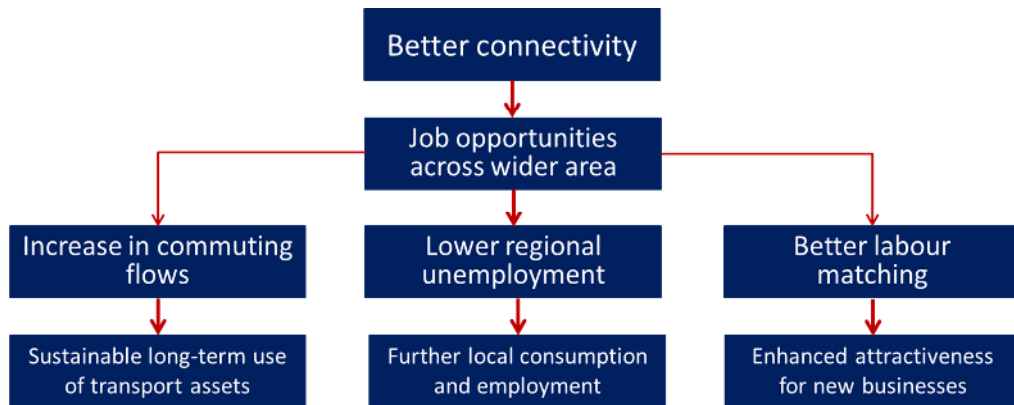
TABLE 2.3 DIRECT ECONOMIC BENEFITS OF TRANSPORT IN THE UK

Location	Transport scheme	Economic benefits	Source
Nottingham	Express transit - Light rail	10,000 additional jobs in Greater Nottingham by 2021	Full business case 2010
Wolverhampton	Multi-modal station interchange	22,300 m ² of office space, capacity for 1,500 jobs	City Centre Prospectus 2012
Manchester	Rail hub and service improvements	£1.5 billion rail user benefits NPV (60 years, 2002 prices)	Network Rail Study 2009
Tees Valley	Metro system with tram-train links	>1,700 additional jobs by 2016 across the sub-region	CEBR Economic Assessment 2008
Plymouth	Rail service timetable changes	City Region GVA higher by £9 million in 2026	Steer Davies Gleave 2012

- 2.32 In addition to the long-term employment potential generated by the Metro, a further one-off boost in local employment will be added during the construction phase. A typical multiplier effect for construction investment in Wales is around £1.76 generated for every £1 spent⁹. The proportion of activities along the construction supply chain that take place in Wales will also determine the specific multiplier of the Metro investment.
- 2.33 On the basis of the high-level estimate of the investment cost in Metro the generated multiplier impact would be around £3.3bn (excluding any displacement effects).
- 2.34 Overall, better connectivity resulting from the Metro therefore has the potential to stimulate the provision of greater capacity to accommodate potential new jobs in the area. The key relationships between improvements in connectivity, job opportunities and their related benefits are summarised in Figure 2 below.
- 2.35 This diagram recognises the knock-on effects that better job opportunities could have on the economy, including the following:
- Greater viability of transport schemes given the increase in commuting flows
 - Additional induced consumption at the local level as more people take up jobs
 - Enhanced attractiveness for new businesses given the wider accessibility of labour

⁹ Chandler KBS (2013), Tracking the benefits of construction investment, Welsh Assembly Government

FIGURE 2 POTENTIAL EMPLOYMENT IMPACTS OF THE METRO



Supporting Housing Delivery

- 2.36 The population of Cardiff is forecast to increase by a quarter over the next twenty years. Improved public transport can potentially help in the delivery of housing through similar mechanisms as for employment: it can directly enable housing to take place on otherwise poorly accessible locations and it can increase viability, scale and density of housing.
- 2.37 The Metro proposals could enable urban regeneration and unlock the construction of new residential and commercial spaces around key transport hubs and stations.
- 2.38 Of the sites identified in Appendix A by JLL, the Cardiff North-West Corridor provides the greatest proposals for housing. In the Local Development Plan 2006-2026, the indicative master plan included in the candidate site submission proposes a segregated public transport corridor running centrally through the site and providing a rapid and direct public transport connection to the city centre and Cardiff Bay areas. It is therefore recognised that good quality public transport, such as the Metro proposals, has the potential to unlock a major urban expansion of more than 7,000 houses.
- 2.39 As with investment in transport infrastructure, the generated multiplier impact of housing construction can be estimated. For the North-West Corridor this would amount to around £1.2bn¹⁰.
- 2.40 Improving transport accessibility and helping increase housing supply are factors in making Cardiff as a whole a more attractive place to live through better connecting housing and jobs and maintaining the affordability of housing as additional housing supply would, other things being equal, moderate increases in house prices. The combination of the transport accessibility delivered by Metro, and potential impacts in helping increase housing supply, therefore have a role in accommodating and supporting the forecast growth of Cardiff.

¹⁰ Based on average cost of construction as advised by JLL

Property market impacts

- 2.41 An additional set of impacts likely to be generated by Metro investment is related to the property market. These will include both a positive impact on land values around key transport nodes, and an enabling impact on development being brought forward.
- 2.42 Land values often increase as a result of public investment in infrastructure, for example a new transport scheme. Any uplift in land values is likely to translate into higher rental values for residential as well as commercial property.
- 2.43 Evidence from a range of studies supports the view that transport schemes have a positive impact on land values. For instance, rail stations have the potential to raise land values in the surrounding area. Evidence¹¹ suggests that moving 250 metres closer to a station has the potential to increase residential property values by around 2.4% and commercial property values by 0.1%.
- 2.44 Further evidence¹² on rapid transit is available from North America. Based on average values for the US and benchmarks from the Government of Canada, a bus rapid transit scheme would have a modest positive impact, creating a 2-4% premium on residential and office space and 1-2% premium on retail property values within a 400-metre radius of stations.
- 2.45 Light rail schemes have the potential to lead to higher premiums, partly because of lower negative externalities such as pollution and of lower susceptibility to local traffic conditions. Prices for residential property have increased by around 20% in Newcastle¹³ along the new metro (as opposed to comparable properties elsewhere in the city), while uplifts of around 10% have been witnessed along the Altrincham metro line in Manchester. Similarly, evidence from Freiburg indicates a rent premium of 15-20% for offices in the city centre with direct access to the tram, as opposed to offices without.
- 2.46 The Nottingham Tram represents another example of transport-led property impacts. With the opening of the Nottingham Tram Line One linking Hucknall to the main railway station, journey times have been reduced by around one-third and public transport use has increased by 25% along the corridor. Residential development in Ashfield, where the Hucknall terminus is located, has seen a faster increase in the housing stock than in Nottingham and the national average¹⁴.
- 2.47 It is forecast that the Metro would deliver significant improvements in transport accessibility to more than 300,000 dwellings within a 800m catchment¹⁵. Given the average property price for residential dwellings in Wales was around £115,000 in

¹¹ Steer Davies Gleave (2011), "The value of station investment", Research for Network Rail

¹² Steer Davies Gleave (2008), "VIVA Benefits Case", Research for Metrolinx

¹³ Hass-Klau, C et al (2004), Economic Impact of Light Rail: The Results of 15 Urban Areas in France, Germany, UK and North America

¹⁴ CBI (2012), Locally grown - Unlocking business potential through regeneration

¹⁵ Based on catchment analysis undertaken by Capita

July 2013¹⁶, if Metro was to result in a 1% uplift in residential values this would equate to an overall land value uplift of around £380 million.

Environmental and social benefits

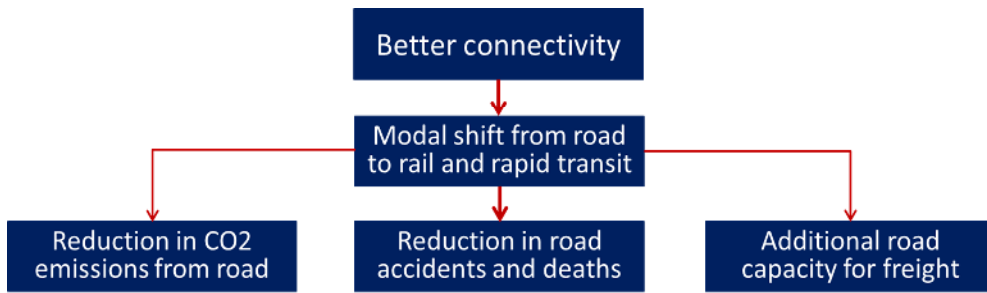
- 2.48 The improvement in rail and rapid transit connectivity provided by the Metro has the potential to deliver environmental benefits to the region by incentivising modal shift from road to more sustainable transport modes. Currently transport accounts for over 12% of CO2 emissions in Wales¹⁷ and the road-based commuting patterns in South East Wales contribute to this figure, with 24% of CO2 emissions in Cardiff coming from road-based transport. A direct environmental benefit of modal shift would be a reduction in CO2 emissions from road transport.
- 2.49 The impact of this can be estimated with reference to a recent report¹⁸, which modelled the potential impact of rolling out a Smarter Choices programme across Wales, leading to a reduction in car vehicle kilometres of 11% and a consequent modal shift to rail and bus. The report argues that such a modal shift would result in a reduction of around 200,000 tonnes of CO2. In perspective, we estimate this to be the equivalent of a reduction of 0.5% in CO2 emissions across Wales, all other things being equal. In addition, the report also suggests that increasing rail and bus patronage would have an economic impact for Wales, mainly because public transport is a service that cannot be imported (as fuel can). An 11% reduction in car trips is expected to stimulate the creation of around 300 new jobs.
- 2.50 Following further development of the Metro proposals a similar estimation could be carried out to assess its environmental benefits, in relation to its expected modal shift impact.
- 2.51 At the same time, modal shift could reduce overall road traffic levels which would result in fewer traffic collisions and associated injuries and fatalities. The reduction in accidents has economic benefits through avoiding lost productivity of casualties and reducing direct costs from police response, hospital care etc., as well as a broader societal benefit from reduced loss and suffering.
- 2.52 Figure 3 illustrates the potential sources of socio-environmental benefits which arise from improved public transport connectivity.

¹⁶ Land Registry - House Price Index July 2013, published 29 August 2013

¹⁷ National Assembly for Wales - Greenhouse Gas Emissions in Wales, February 2013

¹⁸ Stop Climate Chaos Cymru (March 2011), Cutting Carbon: Creating Jobs

FIGURE 3 POTENTIAL SOCIO-ENVIRONMENTAL IMPACTS OF THE METRO



Other Societal Benefits

- 2.53 Other direct economic impacts would materialise. These include the personal time/cost savings for people due to the enhanced accessibility for residents of the region to local services such as public offices, hospitals and schools. Leisure travel will also be facilitated with a potential increase in tourist trips across the region. While these impacts will not directly increase business productivity, they highlight the potential for an increase in economic benefits to society and tourism as a result of enhanced connectivity.
- 2.54 A less congested road network is also likely to require relatively lower investment over the coming decades in terms of new construction as well as maintenance. These savings to public budgets could accrue as an additional long-term benefit of the Metro investment, and could be estimated as a fraction of the public construction procurement budget for Wales¹⁹.

The benefits of strategic linkages and access to gateways

- 2.55 The Metro will provide the necessary improvements to intra-regional connectivity between Cardiff, Newport and the Valleys, delivering a range of potential economic benefits to the area. However the extent to which these benefits will materialise does not only depend upon local accessibility, but also upon the degree of inter-regional connectivity between the region and the rest of the UK.
- 2.56 Better intra-regional connectivity will be especially important in order to achieve the following objectives:
 - Attract businesses and investment to Cardiff and the wider area. The full potential of new residential and employment sites will be unlocked provided that they are considered as viable locations both in the local and national context, especially for companies operating across the UK.
 - Reinforce the wider economic benefits to the region. Linking South East Wales with better connections to the economic powerhouses of the UK will ensure that agglomeration and labour market impacts can accrue by widening the accessible network of firms and workers.
- 2.57 Enhanced intra-regional connectivity is therefore key to ensuring that the local economic benefits arising from transport investment are maximised.

¹⁹ This is in the order of £850 million annually, based on Welsh Government Assembly figures

The impacts of different connectivity options

2.58 The types of connectivity that the Metro interventions could support will determine the level and nature of the benefits arising.

- City-region to city connections - these will generate benefits for businesses, commuters and passengers from shorter journey times to key economic hubs such as London and Birmingham from Cardiff and Newport
- City-region to airport connections - these will generate benefits for businesses from direct access to international gateways such as Cardiff and Heathrow airports, including the possibility for companies to expand into international markets
- City-region to rail hub connections - these will generate benefits to passengers and commuters from including South East Wales within the new rail corridors that would arise from the completion of Crossrail, as well as from the proposed HS2 project

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APPENDIX

A

JLL ASSESSMENT OF POTENTIAL FOR STRATEGIC SITES

POTENTIAL DEVELOPMENT CAPACITY FOR KEY STRATEGIC SITES

STRATEGIC SITE	POTENTIAL DEVELOPMENT
A LIST	
Central Cardiff Enterprise Zone	<p>Ambition for 1million sq ft of office accommodation of which 260,000 sq ft is under construction or in the pipeline. Potential for new conference centre and indoor arena (ball park £100m).</p> <p>Potential for additional housing, particularly along Dumballs Road/Curran Road, circa 1,500 units?</p>
Cardiff Bay	<p>Potential for 500,000 sq ft of office accommodation plus 500,000 sq ft of B1 employment space (creative, media, life sciences).</p> <p>Potential for significant additional residential development, say, circa 2,000 apartments.</p>
North West Cardiff	<p>Draft LDP proposes 5,000 homes in north west Cardiff (Fairwater/St Fagans) and 2,000 homes north of junction 33.</p> <p>In addition, we can assume ancillary retail, employment and other community uses and suggest 250,000 B1 employment, 250,000 sq ft food/non-food retail and 250,000 sq ft of community uses (health, education etc.).</p>
Newport City Centre	<p>No formal figures are available; however, we should assume additional employment, retail and residential development in the order of 500,000 sq ft of offices, 200,000 sq ft of retail and 1,000 residential units.</p>
Llantrisant/Talbot Green	<p>No figures available. Adopted LDP proposes new town centre development in Talbot Green.</p> <p>Assume 250,000 sq ft food/non-food retail, 500,000 sq ft employment (B1) and circa 1,100 residential units. Potential for significantly more housing to be developed in this area, extending the NW Cardiff corridor.</p>
Treforest/Taffs Well	<p>Assume intensification of existing employment uses on the 150 acre Treforest Industrial Estate with further office, B1 and industrial development together with a retail centre and frontage/trade counter uses. This could amount to 500,000 sq ft of employment floorspace and 250,000 sq ft of retail, leisure and trade counter development.</p> <p>Taffs Well comprises c.30 acres of employment uses which could be redeveloped for residential and retail alongside a new, larger, park and ride facility. Assuming 20 acres of residential, this would provide c.250 residential units.</p>

STRATEGIC SITE	POTENTIAL DEVELOPMENT
B LIST	
The Works, Ebbw Vale	<p>The total master plan relates to 180 acres part of which has already been developed. The proposed mixed use scheme comprises “new hospital, learning zone, leisure centre, playing pitches, arts centre, approximately 520 homes, business hub, family history visitor centre, environmental resource centre and wetland park”.</p> <p>We should assume that there is an additional 15 acres of employment land to be developed (200,000 sq ft of B1/B2 floorspace) and 520 homes.</p>
Pentrebach, Merthyr Tydfil	<p>Circa 50 acres capable of accommodating 600+ residential units plus ancillary retail/community uses of c.50,000 sq ft.</p>
Pill/South Newport	<p>No specific development proposals, however, this would intensify the existing commercial area of south Newport and provide greater connectivity for the proposed Redrow scheme on the former Whitehead Steelworks/Mon Bank sidings.</p> <p>In addition, there remain c.20 acres of employment sites available for development along the river frontage and adjacent to the A4042.</p>
Glan Llyn/Celtic Business Park	<p>Master plan agreed for 4,250 residential units and 100 acres of employment land (capable of accommodating 1,500,000 sq ft of B1/B2/B8 employment floor space. Persimmon on site developing the first phase of residential.</p>
Duffryn/Celtic Lakes	<p>Circa 150 acres of employment land available for development capable of accommodating 2.25 million sq ft of B1/B2 and B8 employment floorspace. In addition, the potential to develop further residential schemes of c.500 units.</p>
Pontypridd Town Centre	<p>No formal proposals, however, the opportunity to intensify and upgrade the existing retail and commercial development in the town centre. Potentially, also introducing more residential development.</p> <p>The Taff Vale shopping centre site offers an immediate opportunity for development. Assume 200,000 sq ft of retail/leisure, 50,000 sq ft of offices and c.200 residential units.</p>
St Athan/Airport EZ	<p>Significant employment land available both with air-side access and land fronting the airport access road suitable for business park development. Assume 500,000 sq ft of B1/B2 employment floorspace.</p>

C LIST	
Northern Gateway, Ebbw Vale	Proposed mixed use development of “805 homes, a commercial hub, road side services, employment, a strategic mixed use employment site and a network of green links”. Assume 150,000 sq ft of B1/B2 employment floorspace, 200,000 sq ft of retail/leisure and 805 homes.
Bridgend Industrial Estate	Intensification of existing employment uses on established industrial site. Assume 500,000 sq ft of B1/B2/B8 employment floorspace and 50,000 sq ft of retail/leisure.
Caerphilly Town Centre	Intensification of existing retail, commercial and residential centre and potential for 50,000 sq ft of offices and 100-200 residential units.
Ystrad Mynach/Nelson	Proposed employment site at Ty Du capable of accommodating 300-400,000 sq ft of B1/B2 employment floorspace. Additional potential for urban growth corridor and assume 1,000 residential units.
North East Cardiff	Draft LDP proposes 4,500 homes in North East Cardiff (Pontprennau) and a further 1,300 homes located East of Pontprennau Link Road. Additional employment and community uses – suggest 200,000 sq ft of B1 offices and 100,000 sq ft retail, community uses.
Chepstow	Draft LDP proposes 240 No. residential units and 7.5 acres of industrial or business related development (assume 75,000 sq ft of B1 offices).
Sebastopol, Torfaen	Deposit draft envisages 1,200 homes (690 to be delivered during the plan period. Assume 100,000 sq ft of ancillary development (retail, leisure, community).
Mamhilad, Torfaen	Deposit draft envisages 1,700 homes (690 to be delivered during the plan period. Assume 150,000 sq ft of ancillary development (retail, leisure, education, community).
Barry Town Centre/Waterfront	Intensification and upgrading of existing town centre – assume 50,000 sq ft of employment (B1 offices) and 100 residential units. Barry Waterfront vision proposes 800 homes and ancillary A1/3 (retail, bars & restaurants), C1 (hotel) and B1 (offices). Assume 100,000 sq ft retail and leisure and 50,000 sq ft B1 offices.



Supporting documents:

- Appendices to Main Report
- Metro Interventions Appraisal Report
- Metro Modal Study
- Metro Spatial Map
- Regeneration and The Metro
- Station Design Guidelines (Ebbw Vale)
- Metro Funding and Financing Independent Advice

Study led by Mark Barry of M&G Barry Consulting and included Capita, Powell Dobson Urbanists, Jones Lang LaSalle and Steer Davies Gleave



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