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PARKSIDE LINK ROAD VALUE FOR MONEY REPORT

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EXECUTIVE SUMMARY

Ramboll has undertaken an assessment of transport economic benefits for the proposed Parkside Link Road. The scheme aims to improve access to the Parkside site through the addition of a Link Road that joins A49, to the south of Newton-le-Willows, to Parkside Road and M6 Junction 22. The outcome of this study is an indicative benefit-cost ratio for use at Outline Business Case (OBC).

Value for Money Statement

The calculation of the initial BCR value is given in Table 1. The monetised economic benefits (based on transport modelling outcomes) show that the scheme produces an initial BCR of 5.15 from Present Value of Benefits of £183m (2010 prices, discounted to 2010) and a cost to public accounts of £8.7m (2010 prices, discounted to 2010).

Table 1: Assessment Summary (in £000s, 2010 prices if not stated)

TUBA Appraisal Summary Table

	Option 3
	Costs (£m)
<i>Land Costs in 2017 prices</i>	<i>£9,000</i>
<i>Scheme Costs in 2017 prices</i>	<i>£32,000</i>
Analysis of Monetised Costs and Benefits	
Greenhouse Gases	£4,333
Economic Efficiency: Consumer Users, Commuting	£29,264
Economic Efficiency: Consumer Users, Other	£48,316
Economic Efficiency: Business Users and Providers	£109,871
Wider Public Finances (Indirect Taxation Revenues)	-£8,732
Value for Money Summary	
Present Value of Costs (PVC)	£35,514
Present Value of Benefits (PVB)	£183,052
Net Present Value (NPV)	£147,538
Benefit to Cost Ratio (BCR)	5.154

All costs in 2010 prices discounted to 2010.

According to DfT guidance and criteria¹, the BCR of 5.15 for the Parkside Link Road scheme represents High Value for Money. This assessment has been based on a conservative development schedule, and has incorporated optimism bias at 44%.

The full VfM assessment includes:

- Journey time benefits
- Estimated Wider economic benefits
- Qualitative benefits presented in AST

It can be concluded from these benefits, therefore, that the quantifiable elements of the benefits for Parkside link road scheme produces a strong Value for Money case.

¹ Value for Money Assessment: Advice Note for Local Transport Decision Makers, Department for Transport
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/267296/vfm-advice-local-decision-makers.pdf

1. VALUE FOR MONEY REPORT

1.1 Overview

Ramboll has undertaken an assessment of transport economic benefits for the proposed Parkside Link Road, Option 3 (Table 1, above).

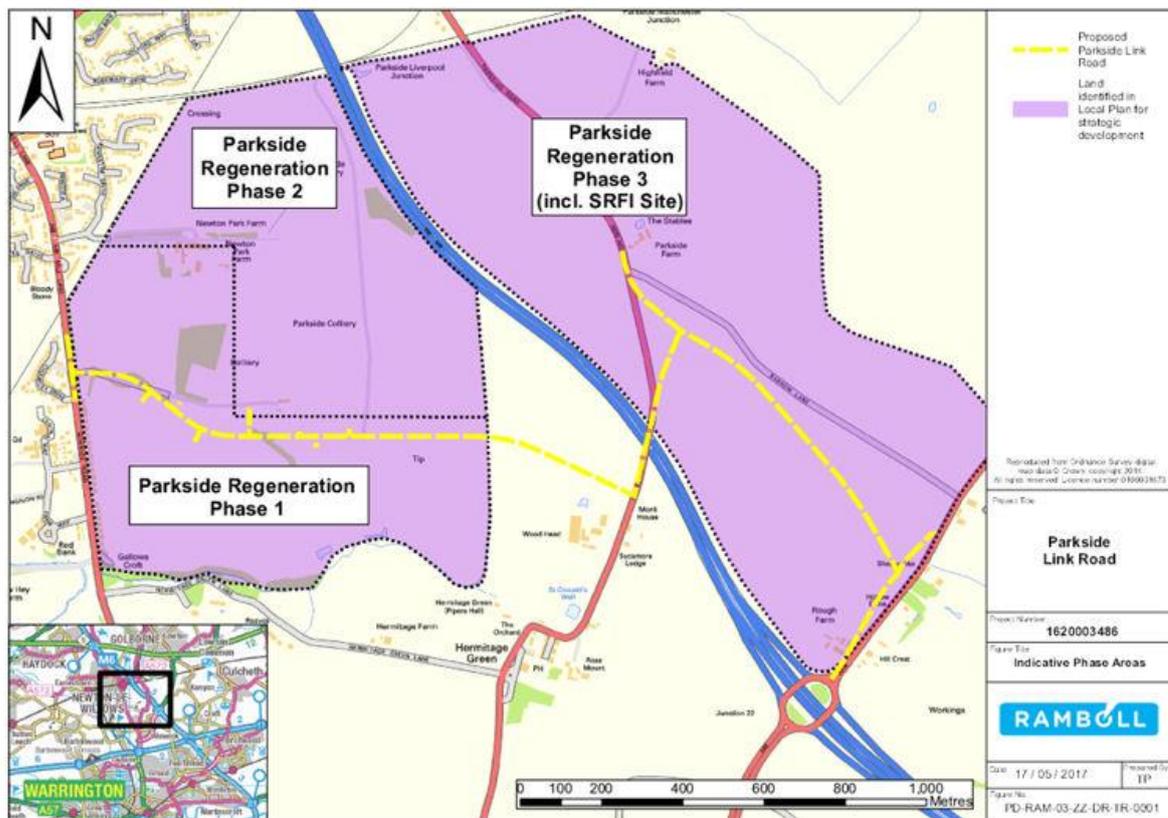
Following the decommissioning of Parkside Colliery, there has been significant interest from both the private and public sector in bringing the site forward for logistics and distribution use as a Strategic Rail Freight Interchange (SRFI). Completion of a SRFI at Parkside will bring new economic activity to the borough, with thousands of jobs created on site and across the Liverpool City Region. The site benefits from a strategic location adjacent to the M6 and M62 and is the only potential SRFI site in the region that has the potential to receive trains from all directions and will serve intermodal flows on West Coast Mainline and Chat Moss line.

The scheme comprises a new link road (Parkside Link Road) which will provide direct access between A49, to the south of Newton-le-Willows, to Parkside Road and onwards to Winwick Lane and the motorway network at Junction 22 of the M6 via new junctions with the A579 Winwick Lane and the A573 Parkside Road. The outcome of this study is an indicative benefit - cost ratio (BCR) for use at Outline Business Case (OBC).

The economic assessment uses the Department for Transport (DfT) TUBA (Transport Users Benefit Assessment) software, which carries out an economic assessment in accordance with published DfT guidance. The assessment is based on data from local surveys and the Liverpool City Region Transport Model (LCRTM).

At OBC, it is recognised that the modelling should be proportionate and appropriate to the scale of the scheme. SATURN is a link and junction-based local area transport model and, as such, can provide a quite detailed indication of the impact of the scheme. It does contain junction coding and link coding so that constraints and delays associated with significant local junctions can be fully represented in the appraisal process.

The Link Road is shown on the location plan below.



1.2 Structure of Report

The sections that follow discuss the following elements of the modelling and economic case development:

- Methodology
- Assumptions
- Transport Economic Efficiency
- Wider Economic Benefits
- Assessment Summary Table (AST)
- Value for Money Statement

1.3 Methodology

The economic assessment has been carried out in line with DfT Guidance with a number of relevant simplifying assumptions adopted specifically to produce indicative Value for Money (VfM) assessments for the Parkside Link Road scheme and that are consistent with local evidence. The main transport modelling platform is a local area SATURN model which has a base year of 2015 and includes up to date transport forecasts for the Liverpool City Region.

The economic benefits calculated for the scheme include:

- Transport economic benefits (TAG A1). The transport economic assessment has been undertaken using the TUBA 1.9.7 program, which carries out an economic assessment in accordance with published DfT guidance. This is based on trip and cost matrices from SATURN and travel cost changes implied by the proposed schemes.

1.4 Assumptions

In order to arrive at the economic benefits, a number of modelling and assessment assumptions have been adopted. The standard TAG assessment forms the basis of the approach with specific assumptions and simplifications made to allow best use of available local modelling data, the perceived nature of the schemes and the longevity of their impacts. The local area SATURN model developed for assessing Parkside Link Road uses traffic forecasting assumptions and constraints built in to the LCRTM. This ensures that the local area model adheres to WebTAG guidance and is consistent in approach to the regional model.

1.4.1 Assessment Period

The Parkside Link Road scheme will impact on both local and strategic traffic movements. On this basis, the TAG recommended assessment period of 60 years has been adopted.

1.4.2 Modelled Years

The scheme is due for implementation during the period 2019-2020. In order to be proportionate in the modelling effort for the assessment, the economic assessment has been based on traffic modelling of 2020 and 2030 where data is readily available from SATURN. These results are then interpolated and extrapolated accordingly (in the modelling and assessment tools) to obtain economic benefits for all other years, which are then discounted to 2010.

1.4.3 Modelled Time Periods

The traffic modelling has been undertaken for the following weekday time periods:

- AM (0800 – 0900)
- IP (Average Hour 1000 – 1600)
- PM (1700 – 1900)

For assessment, time period factors are used to convert the model outputs to be representative of annual totals for the period 0700 – 1900 (see Section 1.4.5).

The assessment does not include any assessment of the scheme benefits in the evenings and weekends.

1.4.4 Model Inputs

Traffic growth in LCRTM from the 2012 base year to the 2020 and 2030 forecast years is estimated using TEMPRO 7.0 housing (distributed based on local forecasts) and employment projections. The jobs forecast at Parkside have been added on top of the jobs forecast by TEMPRO 7.0. The SATURN model developed for Parkside Link Road assessments uses the same growth assumptions as the LCRTM, ensuring compatibility between the regional model and the local appraisal.

There is an overall constraint on trip numbers to match those forecasted in version 7.0 of National Trip End Model Forecasts (NTEM). This method of producing forecast trip matrices is in accordance with DfT guidance on forecasting and uncertainty, as set out in WebTAG Unit M4.

1.4.5 Annualisation

Annualisation factors convert benefits calculated for each model time period into totals for the full year. To achieve this, annualisation factors developed for LCRTM have been adopted.

These factors have been used and accepted by the DfT on funding application projects such as Local Sustainable Transport Fund, Local Pinch Point applications, and the Better Bus Fund.

The annualisation factors are robust and suitable for the current assessments.

Table 3: Annualisation Factors

Time Period	Factor
AM	648
IP	1560
PM	700

1.5 The Transport Economic Assessment

The economic assessment has been carried out in line with DfT guidance with a number of relevant simplifying assumptions adopted in order to produce an indicative VfM assessment and maximise use of available modelling evidence. As indicated above, the DfT's TUBA software has been used to calculate the main transport economic benefits. The analysis uses transport modelling results from SATURN that reflect travel time and traffic reassignment impacts of the new link road.

1.6 Transport Economic Efficiency

The completed Transport Economic Efficiency (TEE) table is included in Appendix A. The transport modelling has shown that the Parkside link road scheme produces reductions in delay and journey time for traffic. The TEE table reflects this and shows that the transport interventions result in significant benefits for all roads users.

The overall Present Value of Transport Economic Efficiency Benefits is £187.451m (2010 prices, discounted to 2010; this is shown in Appendix A.

1.7 Public Accounts

The impact on public accounts for the Parkside link road scheme is set out Appendix B and is a cost to the public accounts of £35,514m. There is a gain of £8.73m in Indirect Tax Costs for central government.

1.8 Analysis of Monetised Costs and Benefits

The AMCB details are set out in Appendix C and show an overall Present Value of Cost (PVC) of the scheme as £35.5m against an overall Present Value of Benefits (PVB) of £183.1m having allowed for impacts of indirect taxation on the economy and greenhouse gases.

This gives an indicative initial BCR of 5.15.

1.9 Wider Economic Benefits

Wider economic benefits capture impacts that are not already included in the conventional user benefit calculations from TUBA. These have not been assessed for the OBC but will be included in the Full Business Case assessment. The appraisal will include:

- Agglomeration
- Increased/decreased output in imperfectly competitive markets

- Labour market impacts

The wider impacts of the scheme could account for around 20% of the transport benefits in additional scheme benefits. This does not include any GVA impacts of the scheme.

1.10 Appraisal Summary Table

The Appraisal Summary Table (AST) provides details of the impacts of the scheme. These include both qualitative and quantitative benefits as required by DFT guidance. The quantitative benefits and qualitative benefits are given in the AST in Appendix D.

1.11 Value for Money Statement

The completed Analysis of Monetised Costs and Benefits (AMCB) table is included in Appendix C. This, together with the Assessment Summary Table, forms the basis for the VfM statement. Economic benefits for the Parkside link road scheme have been calculated based on the preferred option.

The analysis provides an indication of likely economic benefits and BCRs for the package of schemes using TUBA and other DFT methodologies.

The calculation of the initial BCR value is given in Table 4. The monetised economic benefits (based on transport modelling outcomes) show that the scheme produces an initial BCR of 5.15 from Present Value of Benefits of £183.1m (2010 prices, discounted to 2010) and a cost to public accounts of £35.514m (2010 prices, discounted to 2010).

Table 4: Assessment Summary (in £000s, 2010 prices if not stated)

	Option 3
	Costs (£m)
<i>Land Costs in 2017 prices</i>	<i>£9,000</i>
<i>Scheme Costs in 2017 prices</i>	<i>£32,000</i>
Analysis of Monetised Costs and Benefits	
Greenhouse Gases	£4,333
Economic Efficiency: Consumer Users, Commuting	£29,264
Economic Efficiency: Consumer Users, Other	£48,316
Economic Efficiency: Business Users and Providers	£109,871
Wider Public Finances (Indirect Taxation Revenues)	-£8,732
Value for Money Summary	
Present Value of Costs (PVC)	£35,514
Present Value of Benefits (PVB)	£183,052
Net Present Value (NPV)	£147,538
Benefit to Cost Ratio (BCR)	5.154

According to DfT guidance and criteria³, the BCR of 5.15 for the Parkside link road scheme represents High Value for Money. This assessment has been based on a conservative development schedule, and has incorporated optimism bias at 44%.

The full VfM assessment includes:

- Journey time benefits
- Estimated Wider economic benefits

- Qualitative benefits presented in AST

It can be concluded from these benefits, therefore, that the quantifiable elements of the benefits for Parkside link road scheme produces a strong Value for Money case. Considerations for qualitative benefits would make the economic case for the Parkside link road scheme stronger. The qualitative benefits are set out in the Assessment Summary Table as well as the AMCB and TEE tables, which are provided in the Appendices.

APPENDIX A TRANSPORT ECONOMIC EFFICIENCY TABLES

PARKSIDE LINK ROAD
VALUE FOR MONEY REPORT

Economic Efficiency of the Transport System (TEE)			
Non-business: Commuting		ALL MODES	ROAD
User Benefits		TOTAL	Private Cars and LGV's
Travel Time		25,964	25,964
Vehicle Operating Costs		3,301	3,301
User Charges		0	0
During Construction / Maintenance		0	0
COMMUTING		29264	29264
Non-business: Other		ALL MODES	ROAD
User Benefits		TOTAL	Private Cars and LGV's
Travel Time		43,409	43,409
Vehicle Operating Costs		4,907	4,907
User Charges		0	0
During Construction / Maintenance		0	0
OTHER		48,316	48,316
Business			HGV's LGV's
User Benefits			
Travel Time		89,176	49,079 40,096
Vehicle Operating Costs		20,696	2,987 17,708
User Charges		0	0 0
During Construction / Maintenance		0	0 0
BUSINESS		109,871	52,067 57,805
Private Sector Provider Impacts			
Revenue		0	
Operating Costs		0	
Investment Costs		0	
Grant/subsidy		0	
Sub Total		0	
Other Business Impacts			
Developer Contributions		0	
NET BUSINESS IMPACT		109,871	
TOTAL			
Present Value of Transport Economic Efficiency Benefits (TEE)		187,451	
All entries are discounted present values, in 2010 prices and value			

APPENDIX B PUBLIC ACCOUNT

Public Accounts (PA) Table			
		ALL MODES	
		TOTAL	ROAD
Local Government Funding			
Revenue		0	0
Operating Costs		0	0
Investment Costs		0	0
Developer and Other Contributions		0	0
Grant / Subsidy Payments		0	0
NET IMPACT		0	0
Central Government Funding			ROAD
Revenue		0	0
Operating Costs		345	345
Investment Costs		35,169	35,169
Developer and Other Contributions		0	0
Grant / Subsidy Payments		0	0
NET IMPACT		35,514	35,514
Indirect Tax Revenues		-8,732	-8,732
Total Present Value of Costs (PVC)		35,514	

APPENDIX C

ANALYSIS OF MONETISED COSTS AND BENEFITS

	Option 3
	Costs (£m)
<i>Land Costs in 2017 prices</i>	<i>£9,000</i>
<i>Scheme Costs in 2017 prices</i>	<i>£32,000</i>
Analysis of Monetised Costs and Benefits	
Greenhouse Gases	£4,333
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Present Value of Costs (PVC)	£35,514
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Net Present Value (NPV)	£147,538
Benefit to Cost Ratio (BCR)	5.154

APPENDIX D
APPRAISAL SUMMARY TABLE

PARKSIDE LINK ROAD
VALUE FOR MONEY REPORT

Appraisal Summary Table		Date produced:	24	5	2017	Contact:		
Name of scheme:		Parkside Link Road				Name		
Description of scheme:		The Link Road connects A49 to Parkside Road, south of Newton-le-Willows, and provides a further link from Parkside Road to Winwick Lane and M6 JUNCTION 22. It provides access to the Parkside Colliery development site, both west and east of M6.				Organisation		
						Role		
						Promoter/Official		
Impacts	Summary of key impacts	Quantitative			Assessment		Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
		Value of journey time changes (£)			Qualitative			
Economy	Business users & transport providers	Values calculated through TUBA assessment of changes in travel costs.			n/a		£154.7m	n/a
		Net journey time changes (£)						
		0 to 2min	2 to 5min	> 5min				
		£48.6m	£56.5m	£49.4m				
	Reliability impact on Business users	Not assessed			n/a		n/a	
	Regeneration	Not assessed			n/a		n/a	
	Wider Impacts	Not assessed			n/a		n/a	
Environmental	Noise	A scoping assessment has been made for the EA and the need for a noise assessment has been scoped in. There are residential properties in the vicinity of the proposed Scheme but no receptors such as schools or hospitals have been identified in the vicinity of the site, there is a secure children's unit at the western end of the Scheme but this is believed to be closed. The Scheme crosses either derelict former industrial land or agricultural fields where background noise levels would be expected to be low; however, the presence of the M6 motorway which bisects the Scheme will result in higher background noise levels (including at night time) than might be expected. Impacts could arise at residential properties on A49 Mill Lane/Winwick Road, A573 Parkside Road and A579 Winwick Lane.						
	Air Quality	A scoping assessment has been made for the EA, and the need for an air quality assessment has been scoped in. Five Air Quality Management Areas could be affected by the scheme. Air quality monitoring data is available for SHMBC but some further monitoring is required around Winwick. There are residential properties within 200m of the Scheme and impacts could arise on A49 Mill Lane/Winwick Road, A573 Parkside Road and A579 Winwick Lane. No designated ecological receptors are likely to be affected and air quality effects on these receptors have been scoped out.						
	Greenhouse gases	Greenhouse gases have been determined through TUBA assessment of changes in vehicle operating efficiencies and travel distances.			Change in non-traded carbon over 60y (CO2e) £4.3m			
					Change in traded carbon over 60y (CO2e) £0.0m		£4.3m	
	Landscape	A scoping assessment has been made for the EA and landscape assessment has been scoped in. The study area comprises large scale farmland and the former Parkside Colliery bounded by the settlements of Newton-le-Willows, Golborne and Winwick. The landscape is characterised by scattered farms and residential properties in a predominantly open landscape bisected by the M6 motorway. The study area does not include any Landscape Designations but does lie in the SHMBC and WBC green belts. SHMBC are consulting on removing the green belt designation in the area of the Scheme. The study area is visually contained by the existing settlements and vegetation. Most views are local and distant views are limited. Sensitive visual receptors comprise residential dwellings (within 500m), settlements (within 2km), scattered farmsteads with open views across farmland, the Public Right of Way network and road users on existing local roads. The nature and scale of the proposed Scheme may have impacts on land cover, landscape character, landscape quality and views. Visual receptors are expected to range from high to low sensitivity with the highest sensitivity being the PRoW network and residential properties.						
	Townscape	A scoping assessment has been made. Townscape will be considered as part of the landscape assessment and is therefore scoped in. The Study Area principally comprises farmland and land formerly occupied by Parkside Colliery but the study area is bounded by the settlements of Newton-le-Willows, Golborne and Winwick. The Scheme may have effects on townscape character and quality.						
	Historic Environment	A scoping assessment has been made for the EA and the need for an assessment of the impacts on the historic environment has been scoped in. There are no world heritage sites, or registered parks and gardens in the Study Area. There are two scheduled monuments: St Oswald's Well (also grade II listed building) and Bow & Barrow. There are no grade I or grade II* listed buildings in the study area but there are ten grade II listed buildings. There are a number of non-designated heritage assets that predominantly date to the post medieval period and are of low heritage significance. East of the M6 motorway there were post medieval enclosures but these have been lost and the landscape character is now 20th century fields. Known assets include locally listed buildings at Rough Farm (which is to be demolished and so will be lost) and Oven Back Farm. This area has a moderate to high potential for heritage assets. West of the M6 motorway the former Parkside Colliery has negligible potential for heritage assets but the rest of this area has a moderate potential for heritage assets, particularly from the post medieval period and potentially including the Red Bank Civil War Battle Site.						
	Biodiversity	A scoping assessment has been made for the EA and the need for an assessment of the impacts on biodiversity has been scoped in. There are ten nationally designated sites within 2km of the Scheme area and a further two within 5km. There are two internationally designated sites within 10km comprising the Manchester Mosses (5.4km SE) and Rixton Clay Pits (7.6km SE) Special Areas of Conservation. The closest nationally designated site is Highfield Moss Site of Special Scientific Interest (620m N). There are two Local Nature Reserves within 5km of the Scheme and several others in the wider area. Six non-statutory locally designated wildlife sites are located within 2km of the Scheme and of these Galloway's Croft Local Wildlife Site (LWS) and Newton Brook LWS are close to the Scheme. There are no ancient woodlands, priority habitats, Tree Preservation Orders or veteran trees in the study area. A number of ecological surveys have been carried which indicate that great crested newt, reptiles, badger, water vole, otter, invertebrates, bats and breeding birds (including barn owls) could be impacted. The invasive weeds Japanese knotweed and Himalayan balsam were also noted in the survey area. Potential effects could arise in association with land take and habitat loss, habitat fragmentation, increased noise and vibration, effects on designated sites, light emissions, pollution effects and decreased air quality.						
	Water Environment	A scoping assessment has been made for the EA and the need for an assessment of the impacts on the water environment has been scoped in. The proposed Scheme sits astride two watershed catchments, broadly divided into the areas east and west of the M6. The eastern catchment comprises Cocksfoot Brook and its tributaries. There are two unarmoured drainage ditches in this area which flow into Cocksfoot Brook, this then flows south to join Spittle Brook, close to Junction 21A of the M6 approximately 2.5km south of the site. The western catchment comprises Newton Brook and its tributaries. A small watercourse (variously known as Hermitage Green Brook or Oswalds Brook) is shown rising south of the proposed Scheme close to the hamlet of Hermitage Green. It is understood to be an Environment Agency Main River. This brook flows west beneath the A49 to join Newton Brook (approximately 20m west of the A49). A second tributary about 300m in length joins the Brook at the south eastern corner of the former Parkside colliery site. There is a network of ponds and watercourses on the former Parkside Colliery; these showed signs of pollution. From the study area Newton Brook flows broadly south, though Newton-le-Willows to join Sankey Brook approximately 1.8km to the south east of the proposed scheme. A number of ponds, not connected to watercourse, have been noted in the wider landscape. The Scheme area is in Flood Zone 1 (low risk of tidal and fluvial flooding). Large parts of Newton-le-Willows to the north east are at a high risk of fluvial flooding from Newton Brook and the Hermitage Green Brook/Oswalds Brook channel and very small parts of the proposed Scheme area are susceptible to surface water flooding. Potential impacts could arise from increased pollution to surface waters, increased surface water runoff, damage to the integrity of water features and increased flood risk.						
	Social	Commuting and Other users	Value of journey time changes (£)			Net journey time changes (£)		£123.3m
		0 to 2min			2 to 5min			
		£48.6m			£41.0m		£33.7m	
Reliability impact on Commuting and Other users		Not assessed						
Physical activity		A shared cycle and footway will run along the south side of the proposed link road, connecting to the Parkside regeneration site. This will provide slight positive benefit for residents who live and work locally.						
Journey quality		The proposed new road is to modern standards and will improve network flows in the vicinity. This provides an improvement in traveller stress due to reduced fear of potential accidents and reduced frustration.						
Accidents		Not assessed						
Security		The scheme includes lighting and good visibility is designed in. This provides a moderate security benefit for the lighting and visibility indicator.						
Access to services		n/a						
Affordability		n/a						
Severance	The proposed scheme has a neutral severance effect.							
Option and non-use values	n/a							
Public Access	Cost to Broad Transport	Transport budget determined through TUBA assessment					£35.5m	
	Budget							
	Indirect Tax Revenues	Tax Revenues determined through TUBA assessment					£8.73m	