

## Appraisal Summary Table

<b>Option:</b> A5117 Deeside Park Junctions Improvement Scheme	<b>Description:</b> Improved alignment of A5117 and grade separation at 4 junctions, with collector-distributor roads to replace some restricted turning movements	<b>Problems:</b> Traffic congestion and delay, at 4 junctions on A5117/A550, for through and cross movements, owing to low mainline capacity and large number of vehicle conflicts	<b>Present Value of Costs to Public Accounts</b> £60.772m (Central Case)
--	--	--	--

OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE ASSESSMENT (Low/Central Case/High)	ASSESSMENT																
ENVIRONMENT	Noise	A comparison between the Do Something and Do Minimum for 2022 shows a balance between adverse effects and benefits. Most changes are marginal.	Population annoyed Do Minimum 22.9 Population annoyed Do Something 23.2	0.3																
	Local Air Quality	In overall terms the level of air pollutants at properties reduce with the scheme. Adverse effects for some properties are outweighed by improvements at others. Air Quality objective met. Assessment assumes 3 properties demolished.	<table border="0"> <tr> <td></td> <td>PM<sub>10</sub></td> <td>NO<sub>2</sub></td> <td></td> </tr> <tr> <td>Number of properties with an improvement</td> <td>-307</td> <td>-195</td> <td></td> </tr> <tr> <td>Number of properties with a deterioration</td> <td>+1982</td> <td>+2094</td> <td></td> </tr> </table>		PM <sub>10</sub>	NO <sub>2</sub>		Number of properties with an improvement	-307	-195		Number of properties with a deterioration	+1982	+2094		<table border="0"> <tr> <td>PM<sub>10</sub></td> <td>-283.8</td> </tr> <tr> <td>NO<sub>2</sub></td> <td>-265.3</td> </tr> </table>	PM <sub>10</sub>	-283.8	NO <sub>2</sub>	-265.3
	PM <sub>10</sub>	NO <sub>2</sub>																		
Number of properties with an improvement	-307	-195																		
Number of properties with a deterioration	+1982	+2094																		
PM <sub>10</sub>	-283.8																			
NO <sub>2</sub>	-265.3																			
	Regional Air Pollution	Reduction in NO <sub>x</sub> emissions with the junction improvements in 2007 compared with the Do Minimum in 2007 is -13. No change in PM <sub>10</sub> .																		
	Greenhouse Gases	CO <sub>2</sub> emissions increase by 5% with the junction improvements due to the predicted increase in vehicle flows along A5117 and A540, increase in average vehicle speed and an increase of 15% in vehicle kilometres travelled on the local road network in 2007.		+2503 tonnes																
	Landscape	Landscape feature and elements present are typical of the locality. Adverse impacts are due to increased scale of 3 junctions, loss of vegetation and new bridge at Lodge Lane; but effects are limited by proposed planting and mounding and because the existing road is already a major feature in the landscape.		Slight adverse																
	Townscape	N/A																		
	Heritage of Historic Resources	Archaeology – no evidence of remains of national importance. Locally important sites include Shotwick medieval Deer Park, 2 historic routes and palaeo-environmental interest. Neutral effect given mitigation including preservation by record. No direct effects on Built Heritage. Setting of Shotwick Conservation Area would benefit. Balance of effects for Historic Landscape Character. Some slight adverse effects on field boundaries, but overall character not compromised.		Neutral																
	Biodiversity	Biodiversity features are typical of the locality. The proposals are an online improvement in highly agricultural area. Existing species diversity is low. No significant effects on sites designated for nature conservation. River Dee and Mersey Natura 2000 sites not affected. Some loss of terrestrial habitats fro Great Crested Newts and loss of woodland / hedges. Opportunity to enrich the local ecology with habitat creation.		Slight adverse																
	Water Environment	Water features and elements are typical of the locality. There will be an improvement in the chemical water quality and a reduction in the peak flow within the watercourse regime, due to sedimentation and attenuation ponds.		Slight beneficial																

## Appraisal Summary Table

Option: A5117 Deeside Park Junctions Improvement Scheme		Description: Improved alignment of A5117 and grade separation at 4 junctions, with collector-distributor roads to replace some restricted turning movements	Problems: Traffic congestion and delay, at 4 junctions on A5117/A550, for through and cross movements, owing to low mainline capacity and large number of vehicle conflicts	Present Value of Costs to Public Accounts £60.772m (Central Case)
OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE ASSESSMENT (Low/Central Case/High)	ASSESSMENT
	Physical Fitness	It is not possible to forecast accurately the numbers involved but new facilities along the A5117 for pedestrians and cyclists improved crossing points increase opportunities for physical exercise.		Beneficial
	Journey Ambience	The balance of sub factors suggests the proposals would make the overall journey ambience better with increased interest in views from the road, less congestion, reducing frustration and a reduced fear of accidents. With flows in excess of 10,000 travellers per day the impact is large.		Large beneficial
SAFETY	Accidents	Across wider area, scheme will have neutral accident impact: large reduction in junction accidents, with a small casualty saving, will be balanced by a small increase in link accidents with high casualty cost. Taking the scheme corridor by itself, the improvements will have a positive net accident benefit in all scenarios.  Small net accident cost during maintenance and scheme construction	Wide area saving in No. accidents: 676/549/521; Wide area saving in casualties: Fatal -8/-13/-15; Severe 7/-19/-25; Slight 88/711/677; Wide area accidents PVB: £8.733m/£0.722m/-£1.280m; [Scheme corridor saving in No. accidents: 584/442/352]; [Scheme corridor accident PVB: £9.897m/£3.486m/£0.751m];  Increase in No. accidents during maintenance & construction: 4.67/4.84/5.02; PVB: -£0.412m/-£0.427m/-£0.440m;	PVB Low £8.321m PVB Central £0.295m PVB High -£1.720m
	Security			
ECONOMY	Public Accounts	Scheme will require significant public capital expenditure; split of capital cost (2002 undiscounted) will be: 76% construction; 11% land; 9% preparation; 4% supervision	Central Govt capital PVC: (discounted) £41.517m; Central Govt lost tax revenue during operation PVC: £14.111m/£20.357m/£46.442m; Central Govt lost tax revenue from maintenance/construction PVC: £0.283m/£0.313m/£0.367m; Central Govt net maintenance PVC: (discounted) -£1.415m;	PVC Low £54.496m PVC Central £60.772m PVC High £86.911m
	Transport Economic Efficiency: Business Users & Transport Providers	Business users will gain Journey time and vehicle operating cost benefits, through removal of junction delays along and across the A5117 and through discouragement to some traffic from using the longer A55 route. Freight and public transport operators will also benefit.	Business Users PVB: £302.287m/£571.099m/£759.109m; (Transport Providers Included within Users Other PVB £0m); Business User delays from maintenance/construction PVB: -£7.026m /-£6.559m/-£6.353m; (of which, -£0.016m/-£0.015m/-£0.014m to Transport Providers);	PVB Low £295.261m PVB Central £564.540m PVB High £752.756m
	Transport Economic Efficiency: Consumers	Consumer users will also gain Journey time and vehicle operating cost benefits, through removal of junction delays along and across the A5117 and through discouragement to some traffic from using the longer A55 route.	Consumer Users PVB: £247.155m/£461.507m/£617.293m; Consumer User delays from maintenance/construction PVB: -£6.447m/-£6.303m/-£6.343m	PVB Low £240.708m PVB Central £455.204m PVB High £610.950m
	Reliability	Improved A5117 capacity, alignment and ease of junction access will provide better speed / flow characteristics and more consistent journey times	No quantitative assessment of reliability benefits has been made	Moderate beneficial
	Wider Economic Impacts	Increase in jobs accessible in Regeneration Area (RA), based on changes in accessibility	0 – 25,719 increase in jobs accessible to work force in RA 141 – 703 increase in employment of residents in deprived wards	141 – 703 increase in employment of residents in deprived wards
ACCESSIBILITY	Option values	N/A		
	Severance	Improved crossing points including a bridge at Lodge Lane would reduce severance for pedestrians, cyclists and		Slight positive

## Appraisal Summary Table

<b>Option:</b> A5117 Deeside Park Junctions Improvement Scheme	<b>Description:</b> Improved alignment of A5117 and grade separation at 4 junctions, with collector-distributor roads to replace some restricted turning movements	<b>Problems:</b> Traffic congestion and delay, at 4 junctions on A5117/A550, for through and cross movements, owing to low mainline capacity and large number of vehicle conflicts	<b>Present Value of Costs to Public Accounts</b> £60.772m (Central Case)
--	--	--	--

OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE ASSESSMENT (Low/Central Case/High)	ASSESSMENT
		equestrians. Public footpaths diverted to cross the highway would be longer but safer to use.		
	<b>Access to Transport System</b>	Pedestrian access to bus stops on A550 improved.		Slight positive
<b>INTEGRATION</b>	<b>Transport Interchange</b>	Local traffic and bus services in the area could be affected during the construction phase, but operations would be improved post construction. Negligible interchange takes place.		Neutral
	<b>Land-Use Policy</b>	Supports policies in PPG1, PPG4, PPG13, RPG13, development Plans and Local Transport Plans. contrary to PPG2, PPG9 and PPG16.		Beneficial
	<b>Other Government Policies</b>	Supports economic and social policies.		Beneficial

<b>ECONOMIC APPRAISAL SUMMARY</b>		60-Year Evaluation Results	Central Case BCR: 16.78
-----------------------------------	--	----------------------------	-------------------------

PVB (high)	£1,361.986m
PVB (low)	£544.290m
PVB (Central Case)	£1,020.039m
PVC (high)	£86.911m
PVC (low)	£54.496m
PVC (Central case)	£60.772m
NPV (High)	£1,275.075m
NPV (Low)	£489.794m
NPV (Central Case)	£959.267m