

| Appraisal Summary Table | | Date produced: | 15/04/2019 | Contact: | | | |
|-------------------------|---|---|--|---|---|---|-------------------|
| Name of scheme: | Preston Western Distributor (PWD) | Name | Phil Wilson | Organisation | Lancashire County Council | Role | Promoter/Official |
| Description of scheme: | The PWD scheme consists of a new 4.3km dual carriageway road, extending between the M55 and the A583 Blackpool Road to support delivery of the North West Preston strategic housing location (more than 5,000 dwellings), improve access to both the Strategic Road Network in Northwest Preston, and to/from the Enterprise Zone at Warton and relieve congestion in central Preston. The scheme includes a new all moves junction with the M55 (Junction 2). It also provides direct links into existing Cottam development areas, the potential Cottam Parkway Rail Station, and direct connection to the East West Link Road. | Assessment | | | | | |
| Impacts | Summary of key impacts | Quantitative | Qualitative | Monetary £(NPV) | Distributional 7-pt scale/ vulnerable grp | | |
| Economy | Business users & transport providers | The scheme generates significant journey time savings of £85.3m, for business trips, due to reduced congestion in Preston and by introducing a new corridor between M55 and A583. The time benefits are highest (58%) at the level with more than 5 minutes of travel time saving. The scheme also produces disbenefit of -£4.0m through an increase in Vehicle Operating Costs for business users, adding to the scheme net disbenefit for VOC (-£15.9m). There is also disbenefit of -£0.8m due to construction and maintenance delays. | Value of journey time changes(£) £85.3m Net journey time changes (£) 0 to 2min 2 to 5min > 5min £14.1m £22.0m £49.2m | N/A | £80.5m | N/A | |
| | Reliability impact on Business users | Positive journey time reliability effect is expected for business trips between the zones within Preston as a result of the reduction in congestion and accidents in the urban area of Preston, and is estimated to be a total benefit of £1.2m (24% of total journey time reliability benefits). The journey time reliability analysis was limited to the Preston urban area only. Quantification of reliability benefits across the wider network has not been undertaken. | N/A | N/A | N/A | | |
| | Regeneration | N/A | N/A | N/A | N/A | | |
| | Wider Impacts | The scheme will generate £55.4m of benefits from labour supply impacts (£1.8m), productivity (Static Clustering) (£45.5m), and output change in imperfectly competitive markets (£8.1m). This benefit can be considered in total PVC to calculate an adjusted BCR for the scheme. In addition, unlocking the North West Preston development (3,575 dwelling units) will generate £54.7m of benefits, which cannot be used in the BCR calculation. This benefit is monetised as indicative impact to support the overall Value for Money of the proposed scheme. | N/A | N/A | Labour supply impacts: £1.8m Productivity: Static Clustering: £45.5m Output change in imperfectly competitive markets: £8.1m Net NPV: £55.4m | | |
| Environmental | Noise | In the short-term there are 2101 dwellings and 44 other sensitive receptors predicted to have perceptible increases in noise. In the long-term there are 1193 dwellings and 34 other sensitive receptors predicted to have perceptible increases in noise. There are 4288 dwellings and 72 other sensitive receptors predicted to have perceptible decreases in noise in the short-term. In the long-term 32 dwellings and 3 other sensitive receptors are predicted to experience perceptible noise decreases. There are 130 properties anticipated to be eligible for noise insulation. No instances of noise levels greater than 80 dB LAeq,16h have been predicted. Night-time noise levels (Lnight) have been derived using the TRL Method 3 conversion technique. | Number of households experiencing a daytime increase in noise level: 2,276 Number of households experiencing a daytime decrease in noise level: 3,449 Number of households experiencing a night time increase in noise level: 686 Number of households experiencing a night time decrease in noise level: 1,344 | N/A | £6.2m | Income quintile 5: Large Beneficial Income quintile 4: Slight Beneficial Income quintile 3: Moderate Beneficial Income quintile 2: Slight Beneficial Income quintile 1: Large Adverse | |
| | Air Quality | The proposed scheme is predicted to lead to decreases and increases in PM10 and NOx, respectively, with a net reduction (benefit) in local air quality concentrations overall in the opening and design years. However, concentrations are likely to increase near to the scheme and on nearby motorways/main roads (M55, M6, New Preston Road) due to the attraction of extra traffic onto the road network, while roads farther from the scheme will benefit from an improvement in air quality due to attraction of traffic away from these areas. Although there is an overall disbenefit from NOx, it is expected that both Preston Borough Council No.2 and No.3 Air Quality Management Areas (AQMA) will experience imperceptible reduction in NO2 concentration. All changes in PM10 are imperceptible. | Opening Year Change in NOx Emissions: +19 tonnes Forecast Year Change in NOx Emissions: +11.5 tonnes Opening year PM10 assessment score: -347 Change in NOx emissions over a 60 year period: 755 | N/A | Value of change in PM10 concentration: NPV: £0.95m Value of change in NOx emissions: NPV: -£0.37m Total value of change in air quality: NPV: £0.58m | NO2 Income quintile 5: Large Beneficial Income quintile 4: Moderate Beneficial Income quintile 3: Slight Adverse Income quintile 2: Large Beneficial Income quintile 1: Moderate Adverse PM10 Income quintile 5: Large Beneficial Income quintile 4: Large Beneficial Income quintile 3: Slight Beneficial Income quintile 2: Moderate Beneficial Income quintile 1: Slight Beneficial | |
| | Greenhouse gases | There is an increase in regional emissions of CO2 in the opening year and design year. All emissions are non-traded, and rail emissions have not been considered in this assessment. Upper and lower bounds estimate +/-£10 million variation on NPV. The forecast traffic data is for 2037 however the latest year that DEFRA tools have CO2 emissions data for is 2030. It is likely that by the year 2037, technologies will have been developed that will result in fewer CO2 emissions at the scheme. | Change in non-traded carbon over 60y (CO2e) +393 KT Change in traded carbon over 60y (CO2e) 0 KT | The proposed scheme leads to a 5.7 KT change of CO2 in the opening year | -£17.6m | | |
| | Landscape | The scheme would adversely affect the landscape and result in a loss of vegetation, topographical changes, a reduction in tranquility and visual amenity, and the interruption of field pattern. Mitigation vegetation would serve to help integrate the road into the surrounding landscape, enhance and link vegetation and restore lost field boundaries, but adverse impacts would remain. | N/A | Slight Adverse | N/A | | |
| Social | Townscape | The Preferred Route runs through a landscape area, therefore, there would be no change to the townscape. | N/A | Neutral | N/A | | |
| | Historic Environment | A total of 110 heritage assets have been identified, of which only 56 appear to be impacted by the scheme. After mitigation, residual impact is assessed as moderate adverse on two assets and slight adverse for seven assets, with the remainder being neutral. The potential for as-yet unknown archaeological remains is considered to be low. | N/A | Slight Adverse | N/A | | |
| | Biodiversity | Although significant impacts at 15 years of operation are only predicted for veteran trees, significant impacts are anticipated for the following features for the year of scheme opening: Bartle Wetland Biological Heritage Site (BHS); broad-leaved plantation woodland, broad-leaved semi-natural woodland, scattered broad-leaved trees, veteran trees; species-rich and species-poor hedgerows; breeding birds, wintering birds, barn owl and bats. Once habitat creation measures have become established and protected/notable species have become habituated to the scheme, no residual effects on these features are predicted after 15 years (with the exception of veteran trees as described above). Construction of the proposed route would directly affect one non-statutory designated site for nature conservation: Bartle Wetland BHS. Construction is anticipated to lead to a loss of 6,110m2 of poor semi-improved grassland and 188m of native species rich hedgerow. Pond, swamp and fen habitats for which the BHS is designated within Bartle Wetland BHS would not be affected. The scheme is not predicted to have any significant effects on the BHS after 15 years. | N/A | Moderate Adverse | N/A | | |
| | Water Environment | Potential impacts are identified prior to the application of any mitigation measures. Impacts from construction runoff, routine road runoff and spillages will be mitigated through a drainage system designed to attenuate flows and treat pollutants. Culverts and watercourse diversions will be designed with sufficient capacity to convey anticipated flows and to minimise erosion. Contamination has not been encountered in areas where piling is proposed. Design and installation of piles in accordance with Environment Agency guidance would ensure that risks to groundwater receptors are negligible. | N/A | Slight Adverse | N/A | | |
| Public Accounts | Commuting and Other users | The scheme generates significant journey time savings of £194.3m, for commuting and other users, due to reduced congestion in Preston and by introducing a new corridor between M55 and A583. More than 60% of benefits come from travel time savings of 2 or more minutes. The scheme also produces disbenefit of -£12.2m due to increase in Vehicle Operating Costs for these users. An overall VOC disbenefit, small in comparison to travel time benefits, is logical as the total travel distance across the network is slightly higher with the scheme than without the scheme. In addition, the impact of Variable Demand Modelling on the travel pattern also contributed to longer journey distances. There is also disbenefit of -£1.9m due to construction and maintenance delays. | Value of journey time changes(£) £194.3m Net journey time changes (£) 0 to 2min 2 to 5min > 5min £69m £61.4m £63.9 | N/A | £180.5m | Income quintile 5: Moderate Beneficial Income quintile 4: Large Beneficial Income quintile 3: Moderate Beneficial Income quintile 2: Moderate Beneficial Income quintile 1: Slight Beneficial | |
| | Reliability impact on Commuting and Other users | Positive journey time reliability effect is expected for commuting and other trips between the zones within Preston as a result of the reduction in congestion and accidents in the urban area of Preston, and is estimated to be a total benefit of £3.8m (76% of total journey time reliability benefits). Commuting = £1.5m Other = £2.3m | N/A | N/A | N/A | | |
| | Physical activity | Overall NMUs would experience a slight beneficial impact. This will be a result of the scheme providing some new facilities and some NMUs experiencing slightly increased journey times (longer routes) when using some of the Public Rights of Way (PRoW). | N/A | Slight Beneficial | N/A | | |
| | Journey quality | As a result of the scheme, there would be a significant beneficial effect on travellers' views from the proposed distributor road due to the good quality views across the countryside along the new route, particularly across the two proposed viaducts. There would also be an improvement in traveller stress due to a reduction in driver frustration, fear of accidents and journey uncertainty as well as the improvement in NMU facilities. In addition, a beneficial impact on traveller care would be experienced through improving the environmental factors of the journey. As the number of travellers affected exceeds 10,000, the impact is likely to be a large beneficial. There would also be an improvement in traveller stress due to a reduction in driver frustration, fear of accidents and journey uncertainty as well as the improvement in NMU facilities. In addition, a beneficial impact on traveller care would be experienced through improving the environmental factors of the journey. | N/A | Large Beneficial | N/A | | |
| Public Accounts | Accidents | The number of accidents is expected to decrease and the monetary value of the overall change in accidents would be a benefit of £33.7m. | Change in total number of accidents: -632 Change in number of casualties: Fatal=9 Serious= -100 Slight= -732 | N/A | £33.7m | Children: Slight Beneficial Older People: Slight Beneficial Young Male Drivers: Neutral Pedestrians: Slight Beneficial Cyclists: Slight Beneficial Motorcyclists: Neutral LSOAs in most deprived quintile: Neutral | |
| | Security | N/A | N/A | N/A | N/A | N/A | |
| | Access to services | N/A | N/A | N/A | N/A | N/A | |
| | Affordability | N/A | N/A | N/A | N/A | Income quintile 5: Moderate Adverse Income quintile 4: Large Adverse Income quintile 3: Large Adverse Income quintile 2: Slight Adverse Income quintile 1: Slight Adverse | |
| Public Accounts | Severance | Overall the scheme is considered to have a slight beneficial impact on community severance. This is a result of a mixture of beneficial and adverse impacts on community severance as well as the new facilities provided along the distributor road which would provide increased access for NMUs and maintain connectivity between communities. | N/A | Slight Beneficial | N/A | N/A | |
| | Option and non-use values | N/A | N/A | N/A | N/A | | |
| | Cost to Broad Transport Budget | For the purposes of the Economic Assessment and the generation of the BCR, costs are discounted to 2010 prices and exclude the costs already incurred. | N/A | N/A | £133.6m | | |
| Public Accounts | Indirect Tax Revenues | There would be an increase in tax being paid to the Exchequer as a result of higher distances travelled. | N/A | N/A | -£8.2m | | |