

| <b>A556 Knutsford to Bowdon Environmental Improvement Red Option</b> | <b>Description:</b> Upgrade of the existing A556 between M6 Junction 19 and M56 Junction 7 (total length about 6 km) to Dual Two Lane All Purpose (D2AP). Red Option bypasses the communities of Mere and Bucklow Hill and ties in directly back to M6 Junction 19 without any online connection to the existing A556. (Expected year of opening is 2014; design year 2029) | <b>Problems:</b> Congestion due to high traffic flows (53,000 AADT with 18% HGV, for a single 4-lane carriageway with short sections of dual 2-lane carriageway), regular flow interruptions due to right turn movements and traffic incidents. Accident rate is higher than the national average (104 injury accidents between 2003 and 2007). Substandard outfalls near the SSSIs leading to high risk of accidental pollution.   | <b>Present Value of Costs to Government</b><br><b>£ 76.8m</b>   |  |
|--|---|---|---|--|
| OBJECTIVE  | SUB-OBJECTIVE   | QUALITATIVE IMPACTS   | QUANTITATIVE MEASURE  | ASSESSMENT   |
| <b>ENVIRONMENT</b>   | <b>Noise</b>  | Increased noise levels are predicted for properties near the new route, but outweighed by decreased noise for properties in Mere and Bucklow Hill, due to reduced traffic flow on the existing A556. Most properties in Over Tabley will experience significant benefits due to the relocation of the A556. Some other local roads will experience significant traffic flow changes. The magnitude of change in night-time noise levels is expected to be similar to the magnitude of change experienced during the day..   | Estimated Population Annoyed:<br>Do-Minimum: 385<br>Do-Something: 340<br>Est. Properties above 68db LAeq,18hr:<br>Do-Something Opening Year: 50<br>Do-Something Design Year: 48 | Change in population annoyed (Yr 15) = -45<br>NPV = £ 1.58 m |
|  | <b>Local Air Quality</b>  | The existing A556 between M6 J19 and M56 J7 is designated as an Air Quality Management Area (AQMA). The off-line section of the improvement is outside the AQMA from north of Bucklow Hill to M6 J19. NO <sub>2</sub> emissions in the AQMA would be reduced by up to approximately 13 µg/m <sup>3</sup> and there would be an overall improvement in air quality at dwellings along the existing A556 (in Mere and Bucklow Hill, and to some extent Over Tabley), potentially reducing the area of the AQMA.   | Properties with improved PM10 149; worse 53; no change 0. Properties with Improved NO2 149; worse 53; no change 0   | Change in overall exposure: PM10 : -168; NO2 : -1072         |
|  | <b>Greenhouse Gases</b>   | Increase in greenhouse gases due to a general increase in traffic volume and speeds, as a result of improved flows. Increase in CO <sub>2</sub> equates to an approximate increase of 0.04% over the do minimum figures.  | Total change in carbon = + 79472 tonnes<br>Change in opening year = + 2024 tonnes   | NPV = -£ 2.63m   |
|  | <b>Landscape</b>  | Open flat farmland/green belt, with mature woodland and parkland around Taton and Rostherne estates to east, designated as Areas of Special County Value and Old Mere Hall parkland to west. Severance or partial loss of mature woodland (especially Turnpike and Gleaveshole Woods) and of hedgerows, locally important historic landscape. Off-line section affects tranquillity in rural area, including countryside west of Over Tabley. Minor urbanising effect in countryside due to lighting at A50 Junction.   | Not applicable  | Moderate adverse   |
|  | <b>Townscape</b>  | Townscape in Mere, Bucklow Hill and to some extent Over Tabley enhanced by removal of traffic onto new off-line improvement, removal of signage etc.  | Not applicable  | Moderate beneficial  |
|  | <b>Heritage of Historic Resources</b>   | There are 7 listed buildings within the study area and several regionally-important undesignated archaeological sites, including 2 Roman roads and a prehistoric barrow cemetery. Historic setting of some sites will be affected (e.g. Mere Hall, Over Tabley Hall, both Grade II Listed Buildings. Some benefit for historic buildings in Over Tabley. Off-line section will cut one Roman road. Peripheral parts of the barrow cemetery may extend into the road corridor, and if so there may be a small-scale impact on the archaeological remains. High potential for the presence of unknown archaeological remains. | Not applicable  | Slight adverse   |
|  | <b>Biodiversity</b>   | Two International designated wetland sites (Ramsar sites, also SSSI, one also NNR) lie east of existing road and are affected by drainage of existing road. Habitats fragmented/lost include Belt, Kennel, Tabley Woods and ponds, hedgerows and ditches, but route avoids Gleaveshole and Turnpike woods and a pond (BAP priority habitat). Habitats affected have known populations of, or potential for, great crested newt, bats (roosting/flightline/foraging habitat), otter, water vole, badger, brown hare, birds. Habitat replacement needed.  | Not applicable  | Moderate adverse   |
|  | <b>Water Environment</b>  | Scheme lies in 2 drainage catchments, and crosses several minor water courses/ditches. Some of the existing drainage believed to go to SSSI/Ramsar wetland sites. Larger impermeable area will increase surface runoff, but discharge from new and existing road to be attenuated to no more than existing discharge rate (greenfield rate from off-line section), preventing increased flood risk. Reduced risk of water pollution in the designated sites.  | Not applicable  | Moderate beneficial  |
|  | <b>Physical Fitness</b>   | Walking and cycling will be encouraged on the de-trunked A556. Most rights of way would be preserved (possibly with diversions), and some would gain segregated crossing facilities, increasing the accessibility/connectivity between the routes. Overall, improved opportunity for outdoor activity. Despite these potential benefits a neutral score has been assigned due to lack of quantitative data.   | No data is available  | Neutral  |
|  | <b>Journey Ambience</b>   | Higher design standard and traffic speed will reduce stress due to improved flows. Traveller care would suffer as roadside facilities would no longer be available, but would benefit from provision of directional signs to the latest (higher) standards. With both cuttings and embankments on the new road, travellers' views will be intermittent, though generally more open than on the existing A556, with trees, buildings and hedgerows close to the verge.   | 2014 : over 31,000 travellers a day<br>2029 : over 35,000 travellers a day  | Large beneficial   |
| <b>SAFETY</b>  | <b>Accidents</b>  | A higher standard of carriageway will provide accident savings.   | Savings in personal injury accidents 619 no.<br>Savings in casualties - Fatal 28, Serious 145, Slight 906 no  | PVB £43.8m   |
|  | <b>Security</b>   | The scheme does not impact on security.   | No impact   | Neutral  |
| <b>ECONOMY</b>   | <b>Public Accounts</b>  | The scheme cost in 2002 prices discounted to 2002 is £90.8m (Central Range Estimate - CRE), and the increase in Indirect Tax is £14.1m. The overall predicted BCR (inc accidents) is 7.51 using CRE.  | Central Govt PVC:£76.8m<br>Local Govt PVC: N/A  | PVC £76.8m   |
|  | <b>Business Users and Providers</b>   | The proposed scheme is expected to deliver substantial travel time and vehicle operating cost benefits to business users:   | Users PVB : £387.5m<br>Transport Provider PVB N/A ; Other PVB: N/A  | PVB £387.5m  |
|  | <b>Consumer Users</b>   | The proposed scheme is expected to deliver substantial benefits to consumers  | Users PVB: £147.6m  | PVB £147.6m  |
|  | <b>Reliability</b>  | The assessment of changes in reliability is based upon changes in levels of stress.   | 1290.50<200,000 hence Neutral   | Neutral  |
|  | <b>Wider Economic Impacts</b>   | The scheme does not affect a regeneration area.   | Not applicable  | Neutral  |
| <b>ACCESSIBILITY</b>   | <b>Option values</b>  | Scheme does not impact on options values.   | Not applicable  | Neutral  |
|  | <b>Severance</b>  | The existing A556 currently presents a significant barrier for pedestrian movement between communities in the area. At sites on and around the existing A556 the Scheme is assumed to have a moderate beneficial impact. At sites along the route of the Red Scheme there is expected to be a slight negative impact on severance. Overall, the reduction in severance on the existing route outweighs the increase along the new route, therefore the overall impact is moderate beneficial.   | Moderate positive: 200-1000   | Moderate beneficial  |
|  | <b>Access to Transport System</b>   | The Scheme does not contain any specification for additional public transport provision or infrastructure. Therefore the assessment score is neutral.   | Not applicable  | Neutral  |
| <b>INTEGRATION</b>   | <b>Transport Interchange</b>  | No freight or passenger interchanges are included in the proposed improvement   | Not applicable  | Neutral  |
|  | <b>Land-Use Policy</b>  | The Scheme would be neither supportive or unsupportive of the majority of local, regional and national policies and plans assessed.   | Not applicable  | Neutral  |
|  | <b>Other Government Policies</b>  | The overall assessment score is beneficial as more key Government Strategies/Objectives are aided by the Scheme than not. Policies positively aided by the scheme include; Transport, Environmental (Noise, Air Quality, Townscape, Journey Ambience, water), Labour Market Flexibility, Health, Economic Growth and Competitiveness. Those hindered by the scheme include; Environmental (Greenhouse Gases, Landscape, Biodiversity), Heritage and Agriculture.  | Not applicable  | Beneficial   |