

Scheme Name: M1 J6A – 10 Widening		Description : Widening existing M1 between Junction 6A and 10 to D4M in both directions. Addition of D2 distributor roads between junctions 7 and 8.	Problems: Severe congestion and delay and high accident occurrence	Present Value Costs to Public Accounts £290m																		
OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE MEASURE	ASSESSMENT																		
ENVIRONMENT	Noise	The assessment has found that increases in noise levels of up to 3dB would be experienced at 10 properties. The assessment has also found that 408 properties would gain decreases of up to 15dB On the basis of the assessment, no additional means of mitigation are considered necessary other than those that have already been incorporated into the scheme proposals.	Estimated Population Annoyed Do Minimum: 191 Estimated Population Annoyed Do Something: 157	Estimated Population Annoyed Do Something minus Population Annoyed Do Minimum: - 34																		
	Local Air Quality	A negligible deterioration in local air quality is expected with the scheme in place. Changes in concentrations at properties within 200 metres of the scheme are well below the significance criteria for NO ₂ and PM ₁₀ (2 and 1 micrograms per cubic metre respectively, as an annual mean) and are unlikely to be measurable. Changes in air quality are expected due to the increase in traffic volume and speed.	Number of Properties with an improvement : 1 Number of Properties with no change : 0 Number of Properties with a deterioration : 20	Overall PM ₁₀ score: 7 Overall NO ₂ score: 17																		
	Greenhouse Gases	Emissions of CO ₂ are estimated to increase with the scheme in place by around 9% in the opening year (2008). Increases are due to the increase in the overall length of the route from Junction 6 to 10 with the scheme in place. The number of vehicles on this part of the road network is expected to increase with the scheme in place.	Compared to the existing case (2001) there is an increase 17% (27,500 tonnes) of CO ₂ with the scheme in 2008. There is an increase of 9% (16,000) tonnes in 2008 with the scheme compared to the do-minimum situation.	Total change in CO ₂ emissions due to proposed scheme in the opening year is an increase of 16,000 tonnes per year.																		
	Landscape	The M1 is currently a prominent feature, cutting across the largely agricultural landscape; the improvements will initially result in a loss of existing vegetation, landtake of largely agricultural land and increased visibility of the motorway and associated engineering elements. Proposed mitigation measures including mounding and planting will reduce impacts, including offering improvements when compared to the existing situation. Mitigation measures will also help to integrate the motorway, including the associated engineering structures, with the wider landscape character and improve views from adjacent visual amenity receptors including Redbourn.	N/A	Slight Beneficial																		
	Townscape	N/A	N/A	Neutral																		
	Heritage of Historic Resources	The scheme will only affect known archaeological sites partially - disturbing the surrounds of the SAM, but not the designated area, and only elements of the 20th century landscape. Impacts of the scheme on buildings, Conservation Areas and Parks will be indirect (on their setting), and no greater than those posed by the current road. Impact on buried archaeological remains will be major, but these remains (if found to be present) are not likely to be of more than regional importance.	N/A	Slight Adverse																		
	Biodiversity	The impacts of the widening scheme have been judged on the basis that many of the habitats adjacent to the motorway have already been bisected and degraded in quality and that further damage will be limited. The majority of the impacts have been assessed as being slight adverse on this basis. Impacts on protected species are envisaged to be negligible. Proposed mitigation such as replacement of bat roosts, re-planting of native species rich hedges, creation of species-rich grassland and the creation of wildlife ponds near Junction 8 should go some way to addressing the impacts of the scheme.	N/A	Slight Adverse																		
	Water Environment	The use of current good practices in accordance with Environment Agency guidelines during the construction phase and the implementation of Vegetative Treatment Systems during the operational phase should significantly reduce any potential impact to controlled waters. The scheme will include improvements to: pollution control, storm water attenuation, discharge to groundwater and will reduce the risk of accidental spillage	N/A	Slight Beneficial																		
	Physical Fitness	Crossing facilities and Public Rights of Way will be maintained and improved/replaced when disrupted. Other improvements have also been incorporated as part of the scheme. Overall the proposals suggest that journey distances by non-motorised users will increase by approximately 800m equating to an additional journey time for pedestrians of 10 minutes across the scheme. The scheme is unlikely to reduce the number of walking/cycling trips made once the scheme has been implemented. Any increase in physical activity is unlikely to be significant enough to contribute to the overall health strategy.	N/A	Neutral																		
	Journey Ambience	Driver's frustration and fear of potential accidents is likely to reduce. Improved route signs and road information should reduce the driver's uncertainty, whilst the improvements in the view from the road are likely to improve (despite some new restrictions to views). Overall journey ambience will benefit from moderate positive impacts.	N/A	Beneficial																		
SAFETY	Accidents	Accident rates based on observed data are relatively high, whereas default rates have been assumed for the scheme. Hence the high level of accident cost savings.	<table border="1"> <thead> <tr> <th colspan="3">PIA's and casualties savings over 60 years:</th> </tr> <tr> <th></th> <th>Central Growth</th> <th>High Growth</th> </tr> </thead> <tbody> <tr> <td>PIA's</td> <td>16,600</td> <td>N/A</td> </tr> <tr> <td>Slight</td> <td>26,889</td> <td>N/A</td> </tr> <tr> <td>Serious</td> <td>1,520</td> <td>N/A</td> </tr> <tr> <td>Fatal</td> <td>253</td> <td>N/A</td> </tr> </tbody> </table>		PIA's and casualties savings over 60 years:				Central Growth	High Growth	PIA's	16,600	N/A	Slight	26,889	N/A	Serious	1,520	N/A	Fatal	253	N/A
PIA's and casualties savings over 60 years:																						
	Central Growth	High Growth																				
PIA's	16,600	N/A																				
Slight	26,889	N/A																				
Serious	1,520	N/A																				
Fatal	253	N/A																				
	Security	Not really applicable although security will be slightly enhanced by the improved flow for vehicles thus reducing the frequency of stationary traffic and the opportunity for incidents.		Slight Beneficial																		
ECONOMY	Public Accounts	Investment cost of scheme is £276.3m. Additional cost of indirect taxation is £17.2m, maintenance cost saving is £3.4m. Overall cost is £290m.	Central Govt PVC £290m, Local Govt PVC: £0m	PVC £290.0m																		
	Business Users & Providers	Business User travel time benefits of £803.3m, no VOC benefits.	Business Users PVB: £803.3m	PVB £803.3m																		
	Consumer Users	Consumer travel time benefits £373.9m, VOC benefits of £53.8m.	Consumer Users PVB: £427.7m	PVB £427.7m																		
	Reliability	Based on preliminary INCA results additional benefits in excess of £500 million may be accrued to the scheme due to improved travel time reliability and the reduction in incidents.		High Beneficial																		
	Wider Economic Impacts	No issues relating to designated regeneration areas.	N/A	No																		
ACCESSIBILITY	Option values	Not directly affected by the scheme (not applicable to road schemes)	N/A	PVB £0m																		

	Severance	Due to the overall increase in length in NMU facilities throughout the carriageway widening scheme, there may be a very slight increase in severance on pedestrians using such facilities however increased severance between community facilities and a reduction in the amenity level of routes between facilities has been considered unlikely during the operational phase.		Neutral
	Access to the Transport System	No direct proposals (not applicable to road schemes)	N/A	Neutral
INTEGRATION	Transport Interchange	The opportunity to use public transport will exist at current levels.		Neutral
	Land-Use Policy	Proposal complies with elements of local, regional and national policy namely those which specifically support the M1 widening scheme to improve the capacity of the strategic road network, reduce congestion and improve local accessibility. Conflicts with a range of environmental and sustainability policies at all three policy spheres to a certain degree. However, the identified impacts on biodiversity, flora and fauna, on known archaeological remains and landscape will be mitigated where possible, through the incorporation of detailed mitigation measures into the scheme design and as such, accord with local planning policy objectives. Through detailed ecological and landscape proposals, the scheme will be sympathetically integrated into the surrounding landscape.		Neutral
	Other Government Policies	With mitigation measures in place during the construction and operational phase, the widening scheme would broadly assist in meeting the policy objectives of the main Government Departments and the main Government Advisory bodies: Environment Agency, English Heritage, Countryside Agency and English Nature. However, the scheme will conflict with the overarching environmental objectives in conserving and enhancing biodiversity, landscape and the historic environment and those seeking a reduction in the dependence on road transport.		Neutral

N. B. The AST appraises the effects of the proposals in the design year, compared with the Do-Minimum situation, except for safety and economy, which is evaluated over a 60 year period.