

Appraisal Summary Table

Scheme Name: M1 Widening J21-J30: Contract 1 Works J25 - J28		Description: Contract 1 will involve symmetrically widening the existing M1 motorway between Sandiacre (Junction 25) and Pinxton (Junction 28), a distance of approximately 24km, from dual 3-lane to dual 4-lane. This first phase comprises only of works within the highway boundary to enable early congestion relief.	Problems: There is a high level of congestion and accidents on the M1	Present Value of Costs to Public Accounts £250.5m
OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE ASSESSMENT	ASSESSMENT
ENVIRONMENT	Noise	The increase in the Estimated People Annoyed (EPA) within the study area will be approximately 6%. As a result of the scheme 21 dwellings could qualify for noise insulation.	DM 2006 Estimated People Annoyed (EPA) DS 2132 Estimated People Annoyed (EPA)	Estimated increase in people annoyed = 126
	Local Air Quality	The worsening in local air quality due to increased exposure to both NO ₂ and PM ₁₀ at the properties within 200m of the M1 (J25-28) is predicted to have an adverse impact along the route including upon the AQMA's declared for NO ₂ in Erewash and Broxtowe (Erewash AQMA 1 and Broxtowe AQMA's 1, 2, 3 and 4). However, the predicted increase in annual mean NO ₂ and PM ₁₀ will not result in exceedences of the Air Quality Strategy Objectives in 2010 including within the 5 adjacent AQMAs.	No. of properties where air quality has improved in 2010 due to the scheme = 0 No. of properties where air quality has worsened in 2010 due to the scheme = 2229	Assessment Values: PM ₁₀ =+325.18; NO ₂ =+476.16
	Greenhouse Gases	The existing motorway and the surrounding local road network will result in emissions of CO ₂ in 2010. The Scheme will result in a small increase in CO ₂ emissions from the traffic network assessed. Monetised PVB carbon costs were assessed with the TUBA traffic Model.	CO ₂ Emissions: Opening year (2010): +3,148 tonnes/yr CO ₂ , compared with future Do minimum in year of opening. CO ₂ Emissions over whole appraisal period: +158,195 tonnes/yr CO ₂	Net present value of change in CO ₂ emissions over whole assessment period: PVB -£5.59m
	Landscape	This section of the M1 is mainly rural but there is much settlement close to the corridor; significant landscape issues include the impact on adjacent residential settlements and properties, and the impact on historic landscapes and river floodplains. There would be adverse impact from new 'urbanising' elements including new lighting, gantries, signs and central concrete barriers.	-	Slight Adverse
	Townscape	There are six distinct residential townscape areas adjacent to this section of the M1, which would experience an adverse impact, reinforcing the urban characteristics although no direct effects on the layout of settlements is anticipated. The motorway is on embankment next to four of these settlements, one of which is an historically important townscape.	-	Slight Adverse
	Heritage of Historic Resources	Proposals are confined to existing motorway boundaries and the original M1 construction is likely to have destroyed or near surface archaeological artefacts. The scheme would cause slight adverse impacts to the setting of the historic features along the M1 corridor including three Grade II Listed Buildings, one Scheduled Monument, four Conservation Areas and five registered Parks & Gardens, however this would reduce to neutral as landscape planting matures.	-	Neutral
	Biodiversity	Slight adverse impacts as a result of permanent loss and disturbance to habitats and species: neutral grassland, broad-leaved woodland, scrub, mixed woodland, seven badger setts and a common pipistrelle bat roost. The approximate areas of habitat loss are: 14 ha (23%) of broad-leaved and mixed plantation woodland; 12ha (33%) of scrub; and, 9ha (31%) of neutral grassland. To mitigate loss of habitats new habitats would be created within the highway boundary and retained habitats enhanced.	-	Slight Adverse
	Water Environment	The spillage containment and pollution control measures incorporated into the scheme are expected to reduce pollution impacts from road run-off. As a result there would be a slight decrease in overall pollutants entering into the River Erewash catchment, Golden Brook, the Erewash Canal and Moorgreen Reservoir. The scheme would not encroach onto the floodplain.	-	Neutral
	Physical Fitness	It is considered unlikely that the scheme would result in increased physical activity through cycling or walking, or influence the travel time of the existing users to exceed 30 minutes.	Change in the number of cyclists / pedestrians making journeys exceeding 30 minutes = 0	Neutral
	Journey Ambience	Reduced traveller stress due to improvements in traffic speeds, information (e.g. gantries and signage) and lighting. Improved traveller care due to improvements in travel information. Travellers views will change as a result of new features introduced by the scheme, including: gantries and signage; noise barriers; taller, more numerous or new lighting columns; a rigid central concrete safety barrier; new retaining structures; and changes in existing roadside vegetation.	-	Large Beneficial
SAFETY	Accidents	The scheme will have a positive effect on accidents, with accident savings over the 60 year period of 848 personal injury road deaths, 113 serious casualties and 699 slight casualties will be saved over this time period resulting in benefits of £53.9 million. During construction there will be 25 additional personal injury accidents resulting in an additional 3 serious casualties and 32 slight casualties. These additional accidents cost £1.9 million	Accident savings: Total Personal Injury Accidents = 823 Fatal casualties = 8 Serious casualties = 110 Slight casualties = 667	PVB £52.0m
	Security	No significant overall impact on security	N/A	Neutral
ECONOMY	Public Accounts	The total costs to Government are £250.5 million, discounted to 2002 prices. This comprises £4.8 million for maintenance costs, £286.9 million investment costs and £41.3 million extra income received in indirect taxes.	Central Govt PVC £250.461m, Local Govt PVC £0.0m	PVC £250.5m
	Transport Economic Efficiency: Business Users & Transport Providers	Over the 60 year period, the benefits are accrued of travel time benefits of £248.5 million for Personal Business users and £125.0 million for Freight users. Changes in vehicle operating costs result in a benefit of £1.9 million for Personal Business users but a disbenefit of £31.4 million for Freight users. During construction there are disbenefits of £5.8 million for Personal Business users and £1.0 million for Freight users. The total vehicle hours saved in the opening year are annualised to all 8760 hours of the year and based on the network consistent with that used in the economics.	Users PVB £337.2m, Transport Providers PVB £0.0m, Other PVB £0.0m Total vehicle hours saved 2010 = 263,296	PVB £337.2m
	Transport Economic Efficiency: Consumers	The benefits to consumers as a result of the scheme break down as £143.0 million travel time benefits, £17.8 million vehicle operating costs disbenefits and £4.1 million construction disbenefits. Journey time savings shown are based on all users of the motorway and are the time savings in the do-something scenario compared with the do-minimum scenario between Junctions 25 and 28 of the M1. The total vehicle hours saved in the opening year are annualised to all 8760 hours of the year and based on the network consistent with that used in the economics.	Users PVB £121.2m Total vehicle hours saved 2010 = 228,210 Journey time savings J25-28 3 minutes peak, 2 minutes inter-peak	PVB £121.2m
	Reliability	Not assessed	-	Not assessed
	Wider Economic Impacts	Improvements to the M1 may aid regeneration of North Derbs & North Notts coalfields, however such benefits would need to be fully assessed as part of an EIR.	-	Slight Beneficial
	ACCESSIBILITY	Option values	Proposal is concerned with motorway improvements and is unlikely to affect transport options.	-
Severance		No significant overall impact on severance.	-	Neutral
Access to the Transport System		Proposal is concerned with motorway improvements and is unlikely to affect access to the transport system.	-	Neutral
INTEGRATION	Transport Interchange	Proposal is concerned with motorway improvements and is unlikely to affect passenger/freight interchange.	-	Neutral
	Land-Use Policy	There may be benefits at regional and local levels through improved accessibility, and there will be adverse impacts in terms of the environment which primarily will be localised on land in closer proximity to the route. The scheme may be slightly beneficial in achieving the objectives of the four Local Transport Plans, when viewed as part of an integrated package of transport improvements: the delivery of the various LTP measures is unaffected by the M1 widening proposals	-	Neutral
	Other Government Policies	The scheme will have a neutral impact on the delivery of Government policy, however it may result in benefits to the local, regional and national economies as a result of the improved accessibility, journey times and reliability on a key transport corridor.	-	Neutral