

Appraisal Summary Table

M25 J23 – 27 Section 5 – Stage 1

		Description: Existing hard shoulders used as a running lane during peak demand - Dynamic Use of Hard Shoulder (DHS) Base	Problems: Additional lane capacity required		Present Value of Costs to Public Accounts £60m		
OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE ASSESSMENT		ASSESSMENT		
ENVIRONMENT	Noise	There would be no dwellings and other noise sensitive receptors within 300m from the roads with a change in traffic flow of an increase of 25% or greater and a decrease of 20% or greater this Options. A further noise assessment indicates that all roads within the study area would have noise changes of less than 3 dB(A) as a result of the proposed schemes	N/A		NPV (Residential): N/A		
	Local Air Quality	6 Air Quality Management Areas along the Scheme. To date only the worst case air quality receptors along the Scheme and at key routes into the scheme have been modeled in detail. A worsening of NO ₂ concentrations is anticipated, with the DHS schemes along the majority of the section, although this is not predicted to result in exceedance of the EU Limit Values in 2015. Overall there would be a net deterioration in air quality with the Scheme in 2015.	PM ₁₀ : Properties Improve 1512; No Change 0; Made Worse 873	NO ₂ : Properties Improve 1512; No Change 0; Made Worse 873	PM ₁₀ : 69 NO ₂ : 141		
	Greenhouse Gases	Not assessed at Stage 1			Not assessed		
	Landscape	The landscape character effects generally result from the loss of vegetation within the highway boundary, and the introduction of elements such as Emergency Refuge Areas, gantries, and associated infrastructure. Introduction of retaining walls alongside the M25 as it cuts through the Copped Hall Estate are areas where Option 1 has a particular impact on landscape and visual character however this is within the context of a landscape within an existing motorway corridor.			Slight Adverse		
	Townscape	No townscape features would be affected by the scheme option. Townscape elements have been incorporated into the landscape assessment; a separate assessment for townscape was not undertaken.			Neutral		
	Heritage of Historic Resources	The proposed Scheme would cause direct impacts on the historic resource and its setting. Major direct impacts are noted for the potential prehistoric to medieval remains which would have a Slight Adverse effect. Any impacts on LBs or CAs would amount to No Change and a Neutral effect. Historic Landscapes would suffer a Negligible impact which would have a Slight Adverse effect.			Slight Adverse		
	Biodiversity	Some habitat loss would be required within verge habitats to accommodate proposed ERAs, gantries and new lighting columns. This would cause some temporary disturbance to protected species, which may require licensing from Natural England to comply with legislative requirements. Designated sites would not be affected by the proposals. Upgraded lighting in the vicinity of junctions would benefit bats foraging within adjacent habitats.			Neutral		
	Water Environment	Increase in contaminated runoff over the baseline due to increased area and treatment capacity will be reduced. 4 extra watercourses exceed EQS. There are no discharges direct to groundwater. The flood plain of the River Lee is crossed and some flooding issues also occur on the smaller watercourses. Peak runoff and total runoff volumes will be increased and an increase in flood risk is likely to result from this option			Slight Adverse		
	Physical Fitness	No severance or disruption to routes crossing or under the M25. As the scheme will not permanently affect the activities of pedestrians and cyclists, physical fitness will remain unchanged.			Neutral		
SAFETY	Journey Ambience	In accordance with DMRB Stage 1 methodology the view from the road and traveller care has not been assessed. The Option would incorporate modern design specifications, which would alleviate uncertainty of route and improve ride comfort. However, the Option requires Narrow Lanes which are a contributing factor toward driver stress. Therefore the overall effect of the Scheme on driver stress is thus considered to be Neutral.	Narrow Lanes throughout		Neutral		
	Accidents	Reductions in the number of accidents are forecast based on the empirical data showing managed motorways to have an accident rate 15% lower than the rate for the existing dual three lane carriageway.	Accidents – 363 Serious Injuries – 32	Deaths – 5 Slight Injuries – 586	PVB £14.0m		
ECONOMY	Security						
	Public Accounts	The Stage 1 Appraisal has been based on the use of the Highways Agency's spreadsheet method for assessing and comparing dynamic use of the hard shoulder as a running lane with the widening of the motorway to a dual four lane layout with hard shoulders. This shows benefits to users of £1600.1m, comprising changes in travel time, queuing and merge delays, and vehicle operating costs. Delays to traffic during MM-DHS implementation and subsequent maintenance work were not assessed. Implementation costs have been estimated to lie within the range £150.7 to £258.8, with the most likely figure being £204.8m. It is forecast that the scheme will result in a gain to government of £145.1m from additional tax revenue.			PVC	£59.7m	£204.8m
	TEE: Business & Transport				PVB	£1614.1m	£1759.2m
	TEE: Consumers				NPV	£1554.4m	£1554.4m
	Reliability	Incident-related reliability impacts have not been assessed at Stage 1.			BCR	27.0	BKR 8.6
ACCESSIBILITY	Wider Economic Impacts	The scheme is partially located within the Lower Lea Valley regeneration area. The Wider Economic Impacts have not been assessed at Stage 1.					
	Option values	Option1 would not result in any new option values			Neutral		
	Severance	Impact on traffic flows journey patterns, and amenity would not be large enough to deter Non-Motorised user journeys, including vulnerable users			Neutral		
INTEGRATION	Access to the Transport System	Access to public transport will not be effected by this option.			Neutral		
	Transport Interchange	The Option would not result in any change to the transport interchange.			Neutral		
	Land-Use Policy	The Scheme is within Secretary of State land. The Transport related policies that are helped include Integrated Transport White Paper, Towards a Sustainable Transport System, The Future of Transport White Paper & Tomorrow's Roads Safer for Everyone. The Option supports policies related to noise, including quality of life and noise pollution providing Environmental Barriers and low road noise surfacing that would mitigate against an increase in noise levels. Air Quality policies would be helped as DHS increases the efficiency of motor vehicles. Biodiversity policies are helped by providing improved habitat connectivity and higher value habitats. Landscape policies are hindered through the net loss of vegetation screening; however mitigation measures are proposed to enhance planting. Water related policies would be helped through the improvement of accidental spillage containment and mitigation.			Neutral		
	Other Government Policies	The Option supports Sustainable Development by increasing the capacity of an existing transport corridor rather than creating a major new development.			Neutral		