

Appraisal Summary Table		Date produced:	19 February 2014	Contact:				
Name of scheme:	M4 J3-12 Smart Motorway	Name	Lynne Stinson	Organisation	Highways Agency	Role	Promoter	
Description of scheme:	Proposal to implement Smart Motorways on this stretch of the M4.	Organisation	Highways Agency	Role	Promoter			
Impacts	Summary of key impacts	Assessment						
		Quantitative			Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp	
Economy	Business users & transport providers	Value of journey time changes(£) 785.6M Net journey time changes (£) 0 to 2min 2 to 5min > 5min 380.5M 329.6M 75.5M			N/A	585.3M	N/A	
	Reliability impact on Business users	N/A			N/A	289.8M	N/A	
	Regeneration	The analyses concluded that there is a slight positive impact in terms of a small increase, generally <5%, in the area accessible within a 1hr travel time. It is concluded this is insufficient to generate a direct increase in employment.			N/A	N/A	N/A	
	Wider Impacts	These are not assessed for Highways Agency Schemes			N/A	N/A	N/A	
Environmental	Noise	For opening year, the complete extent of the Scheme will be provided with low noise surfacing. For the 15 th year after Scheme opening, the complete extent of the Scheme will have low noise surfacing for both the Do-Minimum scenario and the Do-Something scenario. This results in negligible adverse noise differences for the Scheme when comparing the Do-Minimum and Do-Something noise levels for the 15 th year. Importantly, however, it is noted that the noise climate across the study area for the 15 th year after Scheme opening with the Scheme in operation is an improvement on that for the Do-Minimum scenario in opening year. No properties meet the criteria for noise insulation under the provisions of the NIR (out of a total of 23,025 residential properties within 600 metres of the Scheme). The noise changes to all non-residential sensitive receptors in the study area (including 20 schools and 1 hospital) are negligible.			n/a	-4.02M	Slight Adverse	
	Air Quality	For PM10 air quality will be improved at 4663 properties, stay the same at 1014 properties and worsen at 7341 properties. For NO2 air quality will be improved at 4766 properties, stay the same at 167 properties and worsen at 8085 properties. Net Total Assessment score for PM10 +562 Net Total Assessment score for NO2 +688			N/A	-4.64M	0-20%: Slight Beneficial 20-40%: Neutral 40-60%: Neutral 60-80%: Neutral 80-100%: Neutral	
	Greenhouse gases	Predictions carried out using EFT calculations. There is an increase of 4.18 million tonnes of carbon over 60 years, with an opening year increase of 52,692 tonnes. Change in non-traded carbon over 60y (CO2e) 4180129 Change in traded carbon over 60y (CO2e) 0			N/A	-194.87M		
	Landscape	The M4 J3-12 Smart Motorway scheme generally involves limited interventions to an established motorway corridor (namely the introduction of additional gantries and localised carriageway widening/structures replacements), that constitutes part of existing landscape character. As a result the scheme is unlikely to give rise to significant landscape effects.			N/A	Slight Adverse	N/A	
	Townscape	The M4 J3-12 Smart Motorway corridor passes through rural and urban fringe landscapes rather than dense, urban townscapes. As a result, WebTAG Unit 3.3.8 is not considered to be relevant.			N/A	N/A	N/A	
	Heritage of Historic resources	There is the potential for Slight Adverse impacts to the setting of 2 scheduled monuments, 8 listed buildings, 2 Conservation Areas and a number of undesignated heritage assets. There is also the potential for Slight Adverse physical impacts to a number of undesignated heritage assets.			N/A	Slight Adverse	N/A	
	Biodiversity	Any local impacts on existing soft estate can largely be mitigated by careful siting of infrastructure and new planting and management. No significant impact on designated sites of nature conservation importance is anticipated. There will be a very minor loss of habitats that will be mainly restricted to the motorway soft estate of broad-leaved plantation, scrub and grassland, with impacts predicted as slight adverse. Following mitigation measures for great crested newts, bats, otters, dormouse, water vole and badger impacts to fauna is predicted as neutral, apart from reptiles and breeding birds where there is potential for a slight adverse impact from habitat loss and increased mortality from the carriageway being nearer to bird habitat.			N/A	Slight Adverse	N/A	
	Water Environment	There will be little impact upon the water environment as the scheme involves minimal additional impermeable areas and discharges will be limited to current rates. As the scheme involves very little change from the existing situation and with suitable mitigation measures the magnitude of all the impacts is considered to be negligible. Therefore the implementation of the proposed scheme is likely to be of low significance for the water environment in terms of impacts on surface and groundwater quality, drainage and flood risk.			N/A	Neutral	N/A	
Social	Commuting and Other users	Value of journey time changes(£) 449.0M Net journey time changes (£) 0 to 2min 2 to 5min > 5min 231.9M 145.4M 71.8M			N/A	-48.8M	Significant impact on the lowest income quintile in the pm peak only.	
	Reliability impact on Commuting and Other users	N/A			N/A	284.7M		
	Physical activity	N/A			N/A	N/A	N/A	
	Journey quality	N/A			Large Beneficial	N/A	N/A	
	Accidents	A reduction of 33 fatal, 303 serious and 1622 slight accidents over the appraisal period.			N/A	104.5M	No significant adverse impacts on any vulnerable user group.	
	Security	N/A			N/A	N/A	N/A	
	Access to services	N/A			N/A	N/A	N/A	
	Affordability	N/A			Moderate Adverse	N/A	Significant impact on the lowest income quintile in the inter and pm peaks only.	
	Severance	N/A			N/A	N/A	N/A	
	Option values	N/A			N/A	N/A	N/A	
Public Accounts	Cost to Broad Transport Budget	All costs attributable to Central Government Capital Costs: £563.3M + Operating & Maintenance costs of £44.9M			608.2M	N/A	608.2M	N/A
	Indirect Tax Revenues	There is an increase in indirect tax revenues resulting from an increase in travel distances, higher speeds and a resulting increase in vehicle operating costs with associated increased tax revenues.			327.3M	N/A	327.3M	N/A