

Appraisal Summary Table: A2 Initial Pepperhill-Cobham Widening Scheme – 60 Year Appraisal

(*EAAR – Economic Appraisal Assessment Report)

Option: A2 Pepperhill-Cobham Trunk Road Widening Scheme – Initial Scheme 60-Year Economic Appraisal		Description: On line and off line A2 widening from dual 2-lane to 3-lane carriageway, with improved alignment and junction accesses	Problems: Currently congestion, delay and merging/weaving problems at main junctions on A2, owing to lack of mainline capacity	Present Value of Costs to Public Accounts £96.263m (Central)
OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE ASSESSMENT (Low/Central/High)	ASSESSMENT
ENVIRONMENT	Noise	Significant reduction in noise levels for large numbers of properties due to increased distance to new road and quieter road surface. The estimated population annoyed by road traffic noise will fall by 37%, and fewer people will be exposed/annoyed within the higher noise bands.	Estimated population annoyed in 2022 is 1,368 do-minimum, 857 with Scheme.	Net population win = 511
	Local Air Quality	Significant improvements in air quality for large numbers of properties due to increased distance to new road and improvements in emissions technology over time. Some properties will benefit to the extent of being removed from the AQMA. Compared to the present situation, the total emissions of NO _x and PM ₁₀ in the future with the scheme will decrease, although the total emissions would be slightly higher than the future do-minimum situation.	Detailed modelling indicates significant benefits for most properties, and no significant adverse effects.	Data not available in form required by TAG, but overall effects would be large beneficial
	Greenhouse Gases	Some increases over time due to increases in traffic.	2022 do-minimum would produce 60,351 tonnes of CO ₂ per year, Scheme would produce 73,026	Net increase of 12,675 tonnes per year with Scheme
	Landscape	Some properties experience substantial existing visual impact from current A2 alignment - all of these properties would benefit from the scheme. Landscape effects would be slight beneficial only initially, as the road would move out into the wider landscape, but this brings significant benefits to local people.	26 properties with increased visual impact in year 1 (none by year 15). 121 properties with decreased visual impact in year 1 (202 by year 15).	Moderate beneficial
	Townscape	No townscape assessment undertaken, as Scheme passes the edge of Gravesend rather than going through it. However there would be benefits to the urban fringe.	N/A	N/A
	Heritage of Historic Resources	Without mitigation, the scheme would have an adverse effect upon the archaeological resource, affecting both known sites and, potentially, unknown sites. Potential effects on known and unknown archaeology would be effectively mitigated by proposed pre-construction evaluation.	N/A	Neutral
	Biodiversity	Some land take from SSSI, although this would be alongside existing road. Some disturbance to protected species in the short term, though there would be longer-term benefits. Extensive creation of new, semi-natural habitats. Effects vary for different biodiversity topics, and TAG process requires adoption of worst score, but in overall terms scheme would have slight beneficial effects, increasing over time.	N/A	Slight adverse
	Water Environment	Slight beneficial effects on water quality in river and aquifer due to improved pollution control. Neutral effect on hydrology.	N/A	Slight beneficial
	Physical Fitness	No data on numbers walking or cycling, but journey lengths on existing routes would be largely unaffected and Scheme provides new foot/cycleway connections along its length, linking with Country Park to the east. Numbers cycling and walking should increase.	N/A	Moderate beneficial
	Journey Ambience	Driver stress should reduce, as Scheme will reduce congestion and improve traffic flows. Roadside environment will be more pleasant and views from the road will improve, increasingly so over time.	N/A	Moderate beneficial
SAFETY	Accidents	Users and non-users will benefit from a reduction in accidents on the network. Small accident cost during scheme construction	Reduction of 9.2 / 9.1 / 10.2 Fatal, 55.8 / 53.4 / 57.4 Severe, 1013.3 / 973.1 / 1038.3 Slight, PVB £27.743m / £26.548m / £28.669m (Table 4.1 EAAR)* Increase in No. accidents during construction 45 / 46 / 48, PVB - £3.292m / -£3.356m / -£3.457m (Table 5.1 EAAR)	PVB Low £24.451m, PVB Central £23.192m, PVB High £25.212m
	Security	Subways replaced by footbridges to improve security for users. Landscaping designed to provide clear sight lines. No concealed areas.	N/A	Beneficial
ECONOMY	Public Accounts	Scheme will require significant public capital expenditure	Central Govt PVC (incl. lost tax revenue) £96.256m / £97.704m / £100.885m (Local Govt PVC £0m) (Table 3.5 EAAR) Less Indirect tax revenue during construction, PVC -£0.928m / -£1.441m / -	PVC Low £95.328m, PVC Central £96.263m, PVC High £98.861m

			£2.024m (Table 5.1 EAAR)	
	Transport Economic Efficiency: Business Users & Transport Providers	Journey time and vehicle operating cost benefits accrue to users of the A2 and local roads that cross the A2 through junction improvements. Freight and public transport operator also benefit.	Users PVB £204.526m / £212.216m / £247.231m, (Table 3.5 EAAR) (Transport Providers Included within Users Other PVB £0m) Delays due to construction and maintenance, PVB -£22.221m / -£28.219m / -£35.188m, (Table 5.1 EAAR) (of which -£0.175m / -£0.225m / -£0.283m to Transport Providers)	PVB Low £182.305m, PVB Central £183.997m, PVB High £212.043m
	Transport Economic Efficiency: Consumers	Journey time and vehicle operating cost benefits accrue to users of the A2 and local roads that cross the A2 through junction improvements.	Users PVB £169.201m / £173.936m / £198.919m (Table 3.5 EAAR) Delays due to construction and maintenance, PVB -£15.231m / -£19.437m / -£24.383m (Table 5.1 EAAR)	PVB Low £153.970m, PVB Central £154.499m, PVB High £174.536m
	Reliability	Improved A2 capacity, alignment and junction access will provide better speed / flow characteristics and more consistent journey times. Scheme will also reduce the delay / diversion problems arising from traffic incidents.	INCA procedure indicates that the scheme may release an extra £30-£80 million of benefits over 60 years, as a result of travel time variability and incident delay reductions. (Note - procedure still under development).	Additional PVB £30m-£80m (not included in full appraisal benefits)
	Wider Economic Impacts	Increase in jobs accessible in Regeneration Area, based on changes in accessibility	55,124 / 85,150 increase in jobs accessible to work force in RA 84-376 increase in employment of residents in deprived wards	84 / 376 increase in employment of residents in deprived wards
ACCESSIBILITY	Option values	Scheme will not affect mode choice options in the study area	N/A	Neutral
	Severance	Improved Junctions and pedestrian / cycle crossing facilities will reduce severance	N/A	Slight beneficial
	Access to the Transport System	Improved junction layouts will enable easier access for traffic to and from the A2 mainline	N/A	Slight beneficial
INTEGRATION	Transport Interchange	Scheme will enable easy access to Ebbsfleet CTRL station site	N/A	Neutral
	Land-Use Policy	Scheme will provide enhanced access to local land use development	N/A	Neutral
	Other Government Policies	Scheme will assist policies for regenerating Gravesham	N/A	Beneficial

TUBA				Central Case BCR 3.8
			PVC (high)	£98.861m
			PVC (low)	£95.328m
			PVB (high)	£411.792m
			PVB (low)	£360.727m
			PVC (Central Case)	£96.263m
			PVB (Central Case)	£361.688m
			NPV (Central Case)	£265.425m