

Appraisal Summary Table		Date produced:	27/11/2017		Contact:		
Name of scheme:	A47 Wansford to Sutton Dualling - Option 1				Name	Brian Smith	
Description of scheme:	This option relates to the A47 between the A1 and Sutton. The section of single carriageway between Wansford and Sutton would be improved to current dual carriageway standard. The western end of Option 1 incorporates a free flow link from A1 South to A47 East. The alignment of the new dual carriageway would be on the line of the existing carriageway.				Organisation	Amey	
				Role	Transport Planner		
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(£) £146.0m Net journey time changes (£) 0 to 2min £35.6m 2 to 5min £39.5m > 5min £70.9m			Large Beneficial	£146.0m	Benefits are proportional to deprivation decile for all users
	Reliability impact on Business users	DDV: 8,115 PCU per week benefit from congestion relief in opening year. IRV: 1,682 accidents prevented over appraisal period			Large Beneficial		
	Regeneration	The expected journey time benefits are likely to support planned regeneration in the Peterborough area, with associated reductions in unemployment levels.			Slight Beneficial		
	Wider Impacts	Reductions in user costs through journey time improvements will allow companies to profitably increase output. This output change owing to imperfect competition provides an economic benefit estimated at 10% of all journey time benefits for business users as per WebTAG A2.1 Paragraph 4.1.9. There will be a slight economic benefit for the wider area.			Slight Beneficial	£14.6m	
Environmental	Noise	All of the representative receptors are expected to experience an increase in noise levels in the long term as a result of Option 1. This is mainly due to the expected increase in traffic speed and volumes as a result of the upgrade from single to dual carriageway. Overall the significance of effect for Option 1 is between neutral and slight adverse as the proposals are expected to cause an increase in noise levels at sensitive receptors already above the Significant Observed Adverse Effect Level (SOAEL). Without mitigation Option 1 has a negative effect on the Noise Important Area (NIA) at Sutton Heath Road.			Slight Adverse	Cost £0.4m	Moderate adverse for vulnerable groups
	Air Quality	Option 1 is considered to be the second preferred option with respect to local air quality. The carriageway, which is proposed to be predominantly online, provides no reason to acquire properties, no unacceptable exposures to new or existing sensitive receptors and a low net route assessment increase. Option 1 has a slightly higher net route assessment than option 2 with a slightly higher damage cost. The overall impact is assessed as slight adverse.			Slight Adverse	Cost £0.1m	For the opening year, there are adverse impacts for NO2, and beneficial impacts for PM10 in the 60-80% quintile and the 80-100% quintile. The presence of adverse effects in the higher category can have a disproportionate adverse impact on the lower category. This results in an overall neutral impact for this assessment year. For the operational year, there are beneficial impacts only for NO2 to the 80-100% quintile. This is offset by adverse impacts in all other categories and quintiles. This results in an overall moderate adverse impact for this assessment year. Adverse effects within the study area have a disproportionate effect on the young population in the area due to their increase vulnerability. The overall impact is moderate adverse.
	Greenhouse gases	Greenhouse gas emissions are related to traffic flows and traffic speed, based on the amount of fuel consumed and the amount of vehicle kilometres travelled. Whilst traffic volumes and speed are expected to increase as a result of the option, congestion would be reduced. It is considered unlikely that there would be any significant change in the emissions of greenhouse gases.			Neutral	Not calculated at this stage	
	Landscape	Option 1 is overall a widening of the existing road. The new sliproads linking the option to the existing network will cross field boundaries thereby having a localised impact on field pattern. This will be more noticeable with the slip road linking the main line and Langley Bush Road. In the context of national and local landscape character the option will result in impacts within a very small geographical area that will not affect key characteristics to the degree that distinctiveness or identity of character areas will be significantly affected.			Slight Adverse		
	Townscape	All options are located to the east of the A1, so the changes will not have an effect on Wansford; and none of the options will affect the physical townscape of Sutton.			Neutral		
	Historic Environment	At this stage, it is assumed that Option 1 will not impact upon the Scheduled Monument, but this would require review should road-widening of the east-bound carriageway be proposed. It will have a direct impact upon undesignated potentially nationally and regionally important archaeological assets. It would have a direct adverse impact upon a structure (the historic bridge) which currently carries the A47 across the disused railway line. Option 1 could have a possible indirect adverse impact upon the settings of the Listed Buildings, though it would probably be of negligible significance. The overall impact upon the historic environment, taking into account the effects upon the archaeological resource would be a Moderate Adverse impact.			Moderate Adverse		
	Biodiversity	Option 1 has been identified as the preferred option when considering ecological receptors as a result of its being primarily online. It will have a moderate adverse impact on A47/A1 Interchange Road Verges County Wildlife Site (CWS), a slight impact on Sutton Meadows North and local temporary effects on otter and bat species. It is considered that all of these can be mitigated or compensated. Overall Minor adverse.			Slight Adverse		
	Water Environment	Option 1 has the potential to result in minor adverse impacts on the surface water features/abstractions within the study area and have a minor adverse impact fluvial flooding upstream and downstream of the structures. Overall Minor adverse.			Slight Adverse		
Social	Commuting and Other users	Value of journey time changes(£) £101.6m Net journey time changes (£) 0 to 2min £27.3m 2 to 5min £29.8m > 5min £44.6m			Large Beneficial	£101.6m	Benefits are proportional to deprivation decile for all users
	Reliability impact on Commuting and Other users	DDV: 8,115 PCU per week benefit from congestion relief in opening year. IRV: 1,682 accidents prevented over appraisal period			Large Beneficial		
	Physical activity	There is limited use of the route by non-motorised users (NMUs) at present. This option has no effect on the Wansford to Sutton corridor. The repositioning of Sutton Roundabout increases the journey time on the cycle route between Sutton and Upton, but most users are unaffected.			Neutral		
	Journey quality	The reduction in queues and at-grade traffic conflicts reduces both driver frustration and the fear of accidents. Provision of a dual carriageway A47 allows vehicles to overtake safely, also reducing both frustration and fear of accidents. There is a slight disbenefit in that A47 eastbound travellers can no longer access the services east of Sacrewell and must U-turn at The Drift.			Moderate to Large Beneficial		
	Accidents	The number of accidents within the scheme extents is reduced by 54%. Removing conflicts for at-grade junctions on the A47, improving the A47 alignment to a modern standard and reducing queues on the A1 southbound mainline at Wansford generates significant road user safety benefits. As the A47 link is shortest in Option 1 this contributes to a reduced accident rate there relative to Options 2 and 3.			Large Beneficial	£14.5m	Greater benefits for young road users who suffer disproportionately from injuries at present
	Security	The realigned A47 allows for slightly improved sightlines. A reduction in vehicle idling reduces vulnerability to roadside crime but the risk at present is minimal. The overall magnitude of impacts is negligible.			Neutral		No impacts on NMUs measured
	Access to services	No changes in access to services are expected.			Neutral		No impacts on any user group
	Affordability	Personal affordability is slightly improved as vehicle operating costs are reduced due to an overall fall in fuel use but the benefit per journey is negligible.			Neutral	£0.1 million of private user VOC benefits	Benefits per journey are negligible
	Severance	The provision of an overbridge at Sacrewell Farm allows NMUs to safely cross the A47 and provides additional links to Peterborough, Sutton and Wansford, but the lack of an improved onward link adjacent to the A47 limits benefits.			Slight Beneficial		Number of no-car households below average but no significant distributional impacts
	Option and non-use values	The scheme does not involve the loss or introduction of a new mode of transport. Option values are unaffected.			Neutral		
Public Accounts	Cost to Broad Transport Budget	Costs of £68.7 million (at 2010 prices and values) are estimated and account for construction, but not maintenance, of the scheme. These costs are met directly from central government's broad transport budget. This is the highest cost option as the dual carriageway is constructed online, increasing the temporary traffic management requirements and overall construction period length.				Cost £68.7m	
	Indirect Tax Revenues	Indirect tax revenues to the Exchequer are increased due to overall increases in fuel use due to higher vehicle speeds.				£0.2m	