Appraisal Summary Table

Date produced:	29 July 2015

Contact:	
Name	
Organisation	
Role	Promoter/Official

Name of scheme:	Norwich Northern Distributor Road (A47 to A140)
Description of scheme:	A dual carriageway all-purpose strategic distributor road, to be classified as the A1270 Principal Road, which would link the A140 Cromer Road, near Norwich Airport, to the A47 Trunk Road (T) at Postwick. This will be over a length of approximately 13.6 km.

Impacts		Summary of key impacts	Assessment			
			Quantitative	Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	Economic benefits for business users and transport providers were calculated using the DfT's TUBA software (version 1.9.5) which incorporates the latest economic parameters published in WebTAG DataBook (November 2014). Benefits for business users and transport providers are significant with 60% of total travel time benefits deriving from net journey time changes of more than 5 minutes.	Value of journey time changes(£): N/A Net journey time changes (£) 0 to 2min: N/A; 2 to 5min: N/A; > 5min: N/A	N/A	£192,309,000	Not assessed
	Reliability impact on Business users	Reliability impacts were estimated through a calculation of journey time variability, in accordance with WebTAG Unit A1.3, using NATS model output (time, distance and trip data). The monetary figure shown here represents total reliability benefits for business, commuter and other users. These are not included in the Analysis of Monetised Costs and Benefits (AMCB) for the scheme.	N/A	N/A	£17,964,808	
	Regeneration	The scheme does not directly affect travel to, from, or within a regeneration area and therefore an assessment of regeneration impacts in accordance with WebTAG Unit A1.2 has not been carried out. Whilst the scheme is a key element of delivery of the Joint Core Strategy in the greater Norwich area, providing social benefits in terms of job creation and improved housing facilities, its regeneration impacts have been assessed as neutral.	N/A	Neutral	N/A	
	Wider Impacts	Wider Impacts, i.e. economic impacts of transport that are additional to transport user benefits, were calculated in accordance with WebTAG Unit A2.1 These Impacts include: agglomeration; output change in imperfectly competitive markets; and tax revenues arising from labour market impacts. The WITA showed that the scheme will produce significant employment-related benefits focused in the greater Norwich area. *No significant agglomeration benefits in Great Yarmouth/Waveney.*	N/A	N/A	£103,645,903	
Environmental	Noise	N/A	N/A	N/A	N/A	Disproportionate impacts. Large adverse for least deprived income groups (60-100%). Beneficial impact for more deprived groups (20-60%). No impact for most deprived groups. No analysis undertaken of impact on the 22 trip attractors for children in the impact area.
	Air Quality	The WebTAG local air quality assessment procedure indicates there is an improvement of air quality within the study area overall. There is an improvement in air quality in the Central AQMA. Deteriorations are located on the NDR and the surrounding road network. The scheme does not results in an exceedence of the NO2 or PM10 air quality standards These results match those presented in the detailed assessment as part of the DCO application. The assessment predicts a minor negative impact on regional emissions of NOx and PM10.	Air quality effects at properties (Improvements / No effect / Deterioration) NO2 2017 (29860 / 2441 / 9479) PM10 2017 (19664/ 14054 / 8062) Overall Assessment Score NO2: (2017): -5864 PM10: (2017): -999 Emissions NOx (2017): 16 tonnes/year PM10 (2017): 1.5 tonnes/year	N/A (Guidance states that this column should not be used for AQ)	Value of change in PM concentrations: NPV: £3,780,240 Value of change in NOx emissions: NPV: minus £317,571 Total value of change in air quality NPV: £3,462,669	Broadly proportionate impacts for NO2 and PM10, at current and future years. Moderate beneficial impacts for most income groups, except least deprived (slight beneficial).
	Greenhouse gases		Change in non-traded carbon over 60y (CO2e): 381,258 Change in traded carbon over 60y (CO2e): 1859	N/A	minus £17,885,057	
	Landscape	Landscape character is mainly open arable farmland, with pockets of good landscape quality that would be adversely affected by the road, although the areas of highest quality are avoided by the route and elsewhere a combination of earthshaping and planting would mitigate the impacts. Isolated properties and residents on the edge of Horsham St Faith, Thorpe End and Rackheath would experience visual intrusion; Thorpe End and Rackheath would be particularly affected where the route crosses over the Norwich to Sheringham railway line. The route could be accommodated into the landscape for the most part, although some adverse effects would arise. The most significant construction issue would be the crossing of the Norwich to Sheringham rail line, where visual intrusion and noise could cause disturbance. Other issues could be managed using traffic management procedures and road construction techniques. The promotor has submitted a value of £12,105,131. However, due to lack of evidence, have gone with DfT calculation of £93m.	N/A	Moderate Adverse	N/A	
	Townscape	The centre of Norwich consists of a thriving commercial environment centred on a unique and irreplaceable historic medieval core. On the edges of the city are extensive urban fringes typically consisting of relatively modern residential suburbs of rather uniform visual character. The scheme would result in the removal of some of the traffic which currently passes through the city centre, facilitating the further pedestrianisation of some city centre streets.	N/A	Slight beneficial	N/A	
	Historic Environment	The effect upon the following designated assets: Parish Church of All Saints, Horsford Hall, Rackheath Hall, Bridge 100m NE of Rackheath Hall, Hall Farm, WWII structures at Rackheath, WWII structures and Gazebo Farm, Rackheath Park, Beeston St Andrew Park and undesignated buried archaeological remains will be high adverse (negative).	N/A	High adverse	N/A	
	Biodiversity	The proposed scheme is not predicted to have any adverse effects on any Statutory Designated Sites, either directly or indirectly. Similarly, most non-Statutory Designates Sites would also be unaffected, with the exception of Ortolan's Grove Ancient Woodland. A number of Important Hedgerows (designated unther the hedgerow Regulations 1997) would be adversely affected, as would a small number of undesignated areas of woodland and hedgerows. No adverse effects are predicted on the significant flight routes and the small number of bat roosts impacted by the scheme, or on the two great crested newt meta-populations. No other adverse effects on protected species are predicted. Adverse effects are largely avoided due to the extent and amount of mitigation measures included in the proposed Scheme. It is predicted that terrestrial invertebrates would experience a moderate beneficial effect in various locations.	N/A	Slight adverse	N/A	
	Water Environment	The scheme will have no appreciable effect, either positive or negative, on the identified water features. No significant impacts will occur, either positive or negative.	N/A	Neutral	N/A	
Social	Commuting and Other users	Economic benefits for commuters and other users were calculated using the DfT's TUBA software (version 1.9.5) which incorporates the latest economic parameters published in WebTAG DataBook (November 2014). Benefits for commuters and other users are significant with over 43% of total travel time benefits deriving from net journey time changes of up to 2 minutes.	Value of journey time changes(£): N/A Net journey time changes (£) 0 to 2min: n/A; 2 to 5min: N/A; > 5min: N/A	N/A	£457,345,000	Proportionate impacts. All income groups experience a moderate beneficial impact.
	Reliability impact on Commuting and Other users	Reliability impacts were estimated through a calculation of journey time variability, in accordance with WebTAG Unit A1.3, using NATS model output (time, distance and trip data). The monetary figure shown here represents total reliability benefits for business, commuter and other users. These are not included in the Analysis of Monetised Costs and Benefits (AMCB) for the scheme.	N/A	N/A	N/A	
	Physical activity	Overall benefit through the provision of a network of new or improved routes suitable for Non-Motorised Users and by relieving some communities of high volumes of traffic which would transfer to the proposed NDR.	N/A	Neutral	N/A	
	Journey quality	Traveller care aspects neutral because unaffected by scheme. Travellers views neutral given that adverse impacts on views will be outweighed by mature landscaping. Traveller stress reduced due to clearer routes and reductions in congestion.	N/A	Moderate beneficial	N/A	
	Accidents	The scheme results in reduced accident numbers on adjacent roads as demand is diverted onto the new route. Accidents are also reduced on roads in Norwich city centre. Sections of road that connect directly to the scheme see an increase in accident numbers as a result of increased traffic volumes.	Do Minimum Number of Personal Injury Accidents 71,003 Casualties Fatal 1,896 Serious 12,623 Slight 91,510 Accident costs £4,763,961 Do Something Number of Personal Injury Accidents 70,311 Casualties Fatal 1,885 Serious 12,487 Slight 90,633 Accident costs £4,727,914 Costs are £000s in 2010 prices, discounted to 2010.	N/A	£36,047,000	Impacts are neutral for most areas and groups. Two thirds of LSOAs that experience adverse effects have high proportions of under-16s. Beneficial effects are experienced in areas with high proportions of young people. Beneficial effects are experienced in areas with high proportions of older people.
	Security	The NDR A47-A140 involves introducing a new dual-carriageway to areas currently accessible via small, rural roads with poor visibility, perimeterisation, emergency facilities, etc. This scheme would improve these aspects of security. The more fluid movement of traffic will also mean that road users will have to stop less and therefore be less exposed to crime. For these reasons this option would improve security overall.	N/A	Neutral	N/A	Not assessed - out of scope
	Access to services	No new access points will be created onto the network. Where existing accesses to services are severed, alternatives will be provided. Car access to Taverham, the Airport, Sprowston and Postwick P&R will be improved. This will facilitate interchange between car and ublic transport on key radial routes into the city from the north.	N/A	Slight beneficial	N/A	Not assessed - out of scope
	Affordability	Fuel consumption (and therefore associated costs) will be decreased due to shorter journey times. Facilitation of public transport may also lead to more affordable fares. However, the is likely to be a mix of positive and negative impacts in terms of affordability.	N/A	Neutral	N/A	Not assessed - out of scope
	Severance	Reduced traffic and congestion on the majority of radial routes, improved amenity for non-motorised users will relieve existing severance within and between communities caused by existing high traffic levels.	N/A	Slight beneficial	N/A	While amenities and social groups have been mapped, access to amenties and movement of groups has not been explored in detail. Severance mitigation not fully outlined in DI report. Business case reports moderate beneficial in line with social impacts report.
	Option and non-use values	New road provides improved options for alternative journey destinations and enhanced options for walking and cycling. Route includes some closures for motorised vehicles but overall enhancement of route options for wide variety of users and modes of transport.	Approximately 30,000 residents adjacent to the scheme and within the city centre will benefit from the availability of the new road and the pedestrian and cycle facilities.	Moderate beneficial	N/A	
Public Accounts	Cost to Broad Transport Budget	Scheme costs include costs for land, construction, operation, maintenance, preparation, design and supervision. Construction inflation and optimism bias have been applied in accordance with the DfT's guidance.	Total scheme costs are discounted to a 2010 base year, and in 2010 prices. Local Government Funding: £55,278 Central Government Funding: £67,481	N/A	£122,759,000	
	Indirect Tax Revenues	Indirect taxation arises from taxation income changes resulting from altered spending patterns for vehicle-related expenses (fuel, tyres etc) due to the scheme. The scheme increase overall vehicle-kilometres, which in turn increases spending on fuel and other items of travel. This in turn increases indirect taxation received by the Government.	N/A	N/A	£48,919,000	