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Appraisal Summary Table

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Name of scheme:	A19 Downhill Lane Junction
Description of scheme:	Downhill Lane Junction would be upgraded from a signalised grade separated junction with a single bridge crossing the A19 to a two-bridge roundabout junction. A new overbridge would be located to the south of the existing A19 overbridge. The improvement would require re-alignment of Washington Road and Downhill Lane to the east of Downhill Lane Junction.

Contact:	
Name	
Organisation	Highways England
Role	Project Manager

Impacts		Summary of key impacts	Assessment			
			Quantitative	Qualitative	Monetary	Distributional
					£m (NPV)	7-pt scale/ vulnerable grp
Economy	Business users & transport providers	Vehicle Hours Saved for Business Users in the year of opening: 16,000 Vehicle Hours Saved for Business Users in the design year: 33,000	**Value of journey time changes (£m)** £10.590 **Net journey time changes (£m)** 0 to 2min: £10.6 / 2 to 5min: £0.3 / > 5min: -£0.3	N/A	£13.1	N/A
	Reliability impact on Business users	The scheme reduces the variation in travel time for business trips in the modelled area.	N/A	N/A	£0.5	
	Regeneration	Data not available	N/A	N/A	N/A	
	Wider Impacts	The junction upgrade is not expected to result in any significant agglomeration benefits, therefore assessmnet of these benefits was not thought to be appropriate.	N/A	Neutral	N/A	
Environmental	Noise	The Scheme would result in negligible effects in the noise environment of the majority of receptors in the study area. In the short-term the noise level changes would be negligible for the majority of receptors. In the long-term there wouyld be four other sensitive receptors predicted to have perceptible increases in noise; however, these would also be present in the future Do Minimum scenario. There would be no properties with perceptible decreases in noise predicted. No instances of noise levels greater than 80 dB LAeq,16h have been predicted. No properties would be anticipated to be eligible for noise insulation. Night-time noise levels (Lnight) have been derived using the TRL Method 3 conversion technique.	Households experiencing increased daytime noise in forecast year: 1 Households experiencing reduced daytime noise in forecast year: 30 Households experiencing increased nighttime noise in forecast year: 6 Households experiencing reduced night time noise in forecast year: 14	N/A	£0.1	Income Quintile 1 - Neutral; Income Quintile 2 - Neutral; Income Quintile 3 - Neutral; Income Quintile 4 - Neutral; Income Quintile 5 - Neutral
	Air Quality	The air quality assessment found that there would be no significant residual effects on air quality or health effects in relation to air quality, with no predictions of air quality exceedances. The scheme will increase NOx emissions as traffic journeys change. NOx emissions were shown to increase in the forecast year, due to the IAMP development within the study area, which will attract more traffic movements.	Opening Year Change in NOx Emissions: +0.6 tonnes Forecast Year Change in NOx Emissions: +0.4 tonnes NOx valuations for the sensitivity test NPV is : -£233,093 Opening Year Change in PM10 Emissions: +0.1 tonnes Forecast Year Change in PM10 Emissions: +0.1 tonnes PM10: £13,637m NOx: -£12,190m	N/A	£0.0	Income Quintile 1 - Large Beneficial ; Income Quintile 2 - Neutral; Income Quintile 3 - Large Adverse; Income Quintile 4 - Neutral; Income Quintile 5 - Neutral
	Greenhouse gases	Forecast traffic data was for 2036, but the latest year that best practice tools (IAN185-15 HE Speed Banding) have CO2 emissions data for was 2030. It is likely that by the year 2036, technologies will have developed resulting in fewer CO2 emissions at Downhill Lane junction.	Change in non-traded carbon over 60y (CO2e): 25,684 Change in traded carbon over 60y (CO2e): N/A	N/A	-£1.2	
	Landscape	Loss of vegetation along Washington Road and the A19 slip roads to Downhill Lane junction and within fields west of the junction, plus new bridge structures for a second Downhill Lane road bridge and new NMU bridge, changing views from public rights of way and some residential properties, such as on Downhil Lane and the northwest edge of Town End Farm.	Slight adverse impact due to long term vegetation loss and change in views.	Slight Adverse	N/A	
	Townscape	The Scheme would not result in adverse impacts on townscape elements and features, but would introduce an impact on human interaction through improved footpath/bridleway links into the wider countryside across the Downhill Lane junction area.	Slight beneficial impact on human interaction through improved footpath/bridleway links.	Neutral	N/A	
	Historic Environment	Historic environment FIX - Physical impacts on four undesignated archaeological sites, resulting in total removal loss of associated archaeological remains through earthwork construction that would be mitigated by recording, analysis, publication of the results and deposition of an archive for future reference. There would also be physical impacts on two undesignated historic landscape types and an impact on the setting of one undesignated historic building. Predicted impacts would be of slight magnitude. The potential for the presence of unknown archaeological remains was considered to be low.	Slight adverse impact on four undesignated archaeological sites. Slight adverse impacts on two undesignated historic landscape types. A Slight adverse impact on the setting of one undesignated historic building.	Slight Adverse	N/A	
	Biodiversity	Direct impacts on non-designated habitats: mainly arable and improved grassland with the loss of associated species poor hedgerows. Some loss of broad-leaved plantation woodland. Potential impacts on notable species: breeding/wintering birds (especially barn owl) and bat foraging/commuting areas.	Total habitat loss for the scheme would be 21.83 hectares of mainly arable and improved grassland habitat, comprising approximately 9.83 hectares of permanent and 12 hectares of temporary loss.	Neutral	N/A	
	Water Environment	Works adjacent to the River Don floodplain and affecting discharges and surface water run-off within the River Don and River Wear catchments. Some resources would receive a slight beneficial impact and one resource a slight adverse.	An overall neutral impact on the water environment in the longer term assuming the adoption of appropriate mitigation measures and adherence to regulations and guidance (as outlined in the FRA and ES).	Neutral	N/A	
Social	Commuting and Other users	Vehicle Hours Saved for Commute & Other Users in the year of opening: 48,000 Vehicle Hours Saved for Commute & Other Users in the design year: 86,000	**Value of journey time changes (£m)** £20.240 **Net journey time changes (£m)** 0 to 2min: £19.6 / 2 to 5min: £1.3 / > 5min: -£0.7	N/A	£19.8	Income Quintile 1 - Slight Beneficial; Income Quintile 2 - Slight Beneficial; Income Quintile 3 - Large Beneficial ; Income Quintile 4 - Moderate Beneficial; Income Quintile 5 - Moderate Beneficial
	Reliability impact on Commuting and Other users	The scheme reduces the variation in travel time for Commute and Other trips in the modelled area.	N/A	N/A	£0.8	
	Physical activity	The junction is an important commuter route for the Nissan Plant. The new NMU route provides: greater separation of vehicular and NMU users, improving safety; and a lit route for the new sections, which may increase usage in winter months on the current situation. This could lead to additional users of the route for commuting and recreational purposes. The route is longer, which increases physical activity levels. Overall the NMU proposals for Downhill Lane are likely to lead to an improvement in NMU provision compared to the existing situation. The impacts on NMUs would be temporary in nature during construction; however, due to the use of Downhill Lane junction and surrounding roads and footpaths / cyceways as a commuter route to the Nissan Plant and also towards Sunderland, the effects on NMUs during construction would be adverse and significant.	N/A	Moderately beneficial	N/A	
	Journey quality	There would be a slight improvement in route uncertainty and fear of potential accidents as a result of improved signage and the separation of NMU and vehicle traffic from the new NMU route. For some key journeys there would be an increase in driver stress and journey times, particularly during construction. There would be some disruption to existing NMU routes because of works to divert statutory services, highways works, works to improve the NMU facilities themselves or construction of new NMU facilities. Drivers on the A19 mainline would see improvements in traveller stress. Overall the impacts have been assessed as slight adverse given that there are large east-west movements through the junction during the AM and PM peaks. The impacts on NMUs would be temporary in nature during construction; however, due to the strong use of Downhill Lane junction and surrounding roads and footpaths / cyceways as a commuter route to the Nissan Plant and also towards Sunderland, the effects on NMUs during construction would be adverse and significant.	N/A	Slight Adverse	N/A	
	Accidents	The scheme generates a small saving in assessed accidents. It should be noted that this analysis considers the change in accidents on the road network due to the changes in traffic flows. It does not consider any further detail design measures that could be introduced to reduce the likelihood of, and severity of, accidents such as the proposed improvements in pedestrian routes. Further no account has been taken of the reduction in likely accidents due to the reduced likelihood of queues forming on the A19 mainline due to traffic blocking back from the DLJ slips due to congestion at the existing signalised junction. As the scheme is expected to provide more capacity at DLJ, which will lead to a reduction in the frequency of queues, and therefore accidents, a net benefit would be expected. By not quantifying the benefit, a robust economic assessment has been undertaken.	Accidents: PIA -10.3, Fatal 0, Serious -6.1, Slight -21.1	N/A	£1.7	Income Quintile 1 - Neutral; Income Quintile 2 - Neutral; Income Quintile 3 - Neutral; Income Quintile 4 - Neutral; Income Quintile 5 - Neutral
	Security	New carriageways, advanced directional traffic signs, clearer road markings, improved advanced visibility, and improved road lighting serves to reduce driver hesitancy and improve security. Improvements to facilities, lighting, signing and surfacing should create the perception of a safer environment for NMU use.	N/A	Slight beneficial	N/A	N/A
	Access to services	The improved NMU facilities would improve access to community facilities and services, and contribute positively to making places better for people. Operational effects on economy and employment within the wider region from the Scheme would be expected in the form of improved access between jobs and the labour market and reduced time and cost in the transport of and access to goods and services across the three local authorities of Sunderland, South Tyneside and Gateshead.	N/A	Moderately beneficial	N/A	N/A
	Affordability	The scheme results in a net decrease in vehicle operating costs for Commuters and 'Other' users of £1.62million.	N/A	Slight beneficial	N/A	Income Quintile 1 - Slight Beneficial; Income Quintile 2 - Slight Beneficial; Income Quintile 3 - Large Beneficial ; Income Quintile 4 - Moderate Beneficial; Income Quintile 5 - Moderate Beneficial
	Severance	All the larger communities identified within the study area for the Scheme are relatively self-contained and have access to a range of community facilities, without the need to use the A19 or Downhill Lane junction, with the exception of the small number of properties at The Chalet and Usworth Cottages. Given the relatively self-contained nature of the communities, that access would be maintained for all apart from ad hoc overnight closures and that the effects would be temporary in nature, it was considered that the impacts relating to community severance would be adverse but insignificant.	N/A	Neutral	N/A	Income Quintile 1 - Neutral; Income Quintile 2 - Neutral; Income Quintile 3 - Neutral; Income Quintile 4 - Neutral; Income Quintile 5 - Neutral
	Option and non-use values	Not Assessed. The scheme does not include any measures that will substantially change the availability of transport services within the study area	N/A	Neutral	N/A	
Public Accounts	Cost to Broad Transport Budget	No special considerations or simplifications have been adopted in the analysis. Central Government Funding: Transport Investment Cost = £28.97M	N/A	N/A	£29.0	
	Indirect Tax Revenues	Data not available	N/A	N/A	£1.2	