

Option 9		Description: Option 9 was developed to address local comment following the July 2009 public consultation. Based on Option 7, it moves Ulceby Junction towards the existing Habrough roundabout location and replaces the South Killingholme footbridge with a road bridge linking the two halves of South Killingholme.	Problems - Capacity of the road exceeded with the future predicted traffic flows	PVC £33.715m
OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE ASSESSMENT	ASSESSMENT
ENVIRONMENT	Noise	There is a sharp decrease in traffic levels along Eastfield Road south of the A160 which results in a decrease in noise levels for properties within 600m. A night-time noise assessment was not considered necessary at this stage but will be assessed at the Detailed stage. 48 properties will likely experience noise levels above 68 dB LAeq,18hr in the future year with scheme scenario. No properties are predicted to experience noise levels above 80 dB LAeq.	Number of people annoyed 15th Yr: Without scheme – 148.08 With scheme – 135.46	net population win: 12.62 NPV £0.475m
	Local Air Quality	No exceedences of the annual mean NO <sub>2</sub> and PM <sub>10</sub> AQS objectives are predicted at receptors located within the study area, which includes Immingham AQMA (for PM <sub>10</sub> ). The A1173 provides a link between the A160 and A180 and passes through the AQMA. With a decrease in AADT and HGV flow on East Halton Rd and A1173 (Kings Rd/ Manby Rd), a greater number of properties within South Killingholme and Immingham are predicted to experience an improvement in local air quality.	NO <sub>2</sub> - Improvement 400 properties; deterioration 286 properties. PM <sub>10</sub> - improvement 400 properties; deterioration 286 properties.	NO <sub>2</sub> -7.66 PM <sub>10</sub> -2.78
	Greenhouse Gases	The decrease in emissions is primarily a result of road traffic on the A160 and A1173 operating at an efficient average vehicle speed due to the road improvements.	Change in Carbon emissions: in opening year (2015) = -2167 tonnes over 60 year appraisal period = -132,358 tonnes.	NPV of C emissions of Proposal over 60 year period 2015 to 2075 is £5,636,882.
	Landscape	The proposed Top Road roundabout, connecting local access roads and realigned Ulceby Road, negatively impact upon the local field pattern, severing fields resulting in a loss of agricultural land. The widened carriageway and local access roads increase the visual prominence of the road within the landscape to local residential receptors around South Killingholme. It is possible to retain verge side vegetation and reduce land take at Brocklesby Junction, however, road side vegetation is still lost to the south and east of the A160. Field to the north of the Manby Road roundabout severed by the Rosper Road access. Score assumes proposed mitigation measures are implemented. Landscape quality within the study area is predominantly poor and ordinary; there are no statutory landscape designations within the study area		Moderate Adverse
	Townscape	The overall baseline quality of the townscape within the study area is assessed to be 'ordinary' for South Killingholme and 'poor' for the oil refinery and port industry areas. The construction of the new vehicular over bridge connecting Town Street results in significant adverse effects on the residential properties fronting the bridge and embankments. Properties fronting Top Road experience an improvement in aspect and setting due to the removal of through traffic. Subject to detailed design it may be possible to provide additional mitigation around the South Killingholme vehicular bridge to screen views towards it and to improve the general appearance of the area.		Moderate Adverse
	Heritage of Historic Resources	Concern expressed by English Heritage regarding adverse effects as a result of increased traffic flows upon settings of 3 nationally important Scheduled Monuments, and also 1 Grade I, 2 Grade II* and 2 Grade II Listed Buildings. Loss of a number of Archaeological Remains as a result of construction activities, which could range from local to regional importance; further work is required at these sites to enable the significance of effects to be assessed with confidence and score reflects the known remains. Potential direct impacts upon remains of medium value; more work is required to ascertain whether these impacts will occur.		Moderate Adverse
	Biodiversity	Loss of habitats, including two ponds, several ditches, swamps, arable, woodland, hedgerows, scrub and grassland, as a consequence of construction related activities resulting in minor negative impacts anticipated on Rosper Road Ponds and Homestead Park Ponds SNCIs and on a number of undesignated habitats. The link road to Rosper Road negatively impact on one ditch, swamp and grassland habitats supporting legally protected and notable species i.e. water voles, birds and invertebrates. The Ulceby Road junction and connecting local access roads negatively impact upon arable land, hedgerows and associated fauna species i.e. birds. The construction of the road bridge will negatively impact on an important hedgerow. Moderate negative impacts on wintering and breeding birds and minor negative impacts on water vole, badger and brown hare due to the loss of habitat. The mitigation measures will reduce the overall impact of the scheme to moderate adverse.		Moderate Adverse
	Water Environment	Negligible impact to tidal floodplain of Humber Estuary (Special Protection Area), subject to the findings of a flood risk assessment. Potential minor impacts upon 2 SPZs and underlying Major Aquifer should discharges be made to groundwater. Negligible impacts to a number of surface water courses, subject to pollution controls. Potential major impact to ponds located near to Ulceby Junction as infilling would be required. The probability of an accidental pollution incident is <1%.		Slight Adverse
	Physical Fitness	Vehicular overbridge will offer safer crossing movements for all users, cycle route unchanged but new bridge may encourage greater cycle use; however journey times will be less than 30 minutes for this movement.		Neutral
	Journey Ambience	Access to local facilities improved; although lengthier route from A160. Online improvements have, on balance, neutral effect upon traveller views. More circuitous local road access but removal of one key at grade crossing would reduce fear of accidents and overall reduced route uncertainty.		Large Beneficial
SAFETY	Accidents	Accident savings arising from scheme improvements (Do Minimum accidents – Do Something accidents).	Accidents Fatal Serious Slight 131 6 39 175	PVB £10.294m
	Security	Additional lighting will be required. As there is currently no pedestrian or cycle facilities along the A160, these will be improved, including a new vehicular overbridge which will improve security for pedestrians and cyclists.		Moderate Positive
ECONOMY	Public Accounts	Costs to central government arising from scheme improvements. Cost range P50	Central Govt PVC	PVC P50 £33.715m
	Transport Economic Efficiency: Business Users & Transport Providers	Journey time savings and reduced congestion along the A160.	Users PVB, Transport Providers PVB, Other PVB	PVB £288.955m
	Transport Economic Efficiency: Consumers	Benefits to consumers arising from scheme improvements	Users PVB	PVB £56.646m
	Reliability	Improvements to existing route varies from moderate at the western end to neutral between Manby Road and Rosper Road.		Neutral to Moderate Beneficial
	Wider Economic Impacts	In terms of job creation it is estimated that Option 9 will generate between 3,206 and 4,281 additional new jobs. This equates to economic benefits of between £86.57 million and £115.59 million.		
ACCESSIBILITY	Options values	No public transport routes will be added or withdrawn as a result of Option 9.		Neutral
	Severance	At grade crossings remain at Eastfield and Manby Roads; Top Road also but across improved dual carriageway. Long detours from Top Road to new roundabout, lesser detour to overbridge. Overbridge improves severance at South Killingholme Low pedestrian numbers cross highway.		Neutral
	Access to the Transport System	Level of access to transport systems, where access is defined as owning a car and/or living within 250m of a daytime hourly public transport system, is not likely to be affected by scheme.		Neutral
INTEGRATION	Transport Interchange	Better journey time reliability along the A160 will improve the reliability of connections between road freight traffic and Port of Immingham sailings.	No of freight connections > 100 per day	Large Beneficial
	Land-Use Policy	The Land required for a highway route is protected in a policy in an adopted local plan which anticipates improvements to these roads. The scheme is a high priority in terms of regional transport priorities and the provisions of The Northern Way. It is also supported by the policies contained within the Transport Planning Policy Guidance and White Papers. It is therefore in conformity with transport policy at all levels.		Beneficial
	Other Government Policies	Beneficial to a range of government policies relating to health and the economy. Improved access to the Humber ports are specifically mentioned as economic priorities. Policies relating to DfT, which are entirely supportive of the option, have not been included. It has a broadly neutral impact on the policies of other Government Departments.		Beneficial