A63 Castle Street Improvements, Hull
Appraisal Summary Table

HIGHWAYS AGENCY

Option: Underground Option		**Description:** Provision of grade separate junction at Mytongate (A63 lowered), footbridges at Porter Street, Princes Dock and Market Place.	**Problems:** Major traffic congestion and RTAs at Mytongate, severance of Humber Dock Area	**Present Value of Costs to Public Accounts £161m**
OBJECTIVE	**SUB-OBJECTIVE**	**QUALITATIVE IMPACTS**	**QUANTITATIVE ASSESSMENT**	**ASSESSMENT**
ENVIRONMENT	**Noise**	892 properties will likely experience noise levels above 68 dB LAeq,18hr in the with scheme scenario. No properties are predicted to experience noise levels above 80 dB LAeq.	No. of people annoyed 15th Year: Without scheme – 2578.49, With scheme – 2433.83	net population win: 144.66 NPV £4.30m
	Local Air Quality	The scheme proposals are located within an existing AQMA declared for the exceedence of the annual mean NO_2 objective. In 2017 do-minimum, modelled concentrations show an exceedence of the objective at 12 properties located at roadside locations on the A63 Castle Street. In 2017 do-something, the model predicts the highest increment in road NO_2 concentrations will be approximately 0.5 $\mu g/m^{-3}$, with no predicted new exceedences of the objective. For the study area, the assessment has predicted an overall net improvement in air quality with the scheme. Due to the scheme two listed buildings will be demolished: Castle Buildings (Grade II Listed); Earl de Grey public house (Grade II Listed). The change in mass emissions in tonnes per year will be - 2.2 tonnes NO_x and - 0.03 tonnes PM_{10} in 2017.	NO_2: Number of properties with an improvement: 1890 Number of properties with a deterioration: 560 Number of properties with no change: 2099 PM_{10}: Number of properties with an improvement: 516 Number of properties with a deterioration: 797 Number of properties with no change: 3236	Net total Assessment for NO_2: -455.6 Net total Assessment for PM_{10}: -40.0
	Greenhouse Gases	An increase in the number of total vehicle kilometres travelled throughout the study area due to the proposed road scheme has resulted in an increase in the levels of carbon emitted, resulting in a negative NPV of £1.28m.	Change in carbon emissions: in opening year (2017) = 393 tonnes; over 60 year appraisal period = 31,169 tonnes.	NPV of C emissions of Proposal over 60 year period 2017 to 2077 is £-1,280,125.
	Landscape	Not assessed due to entire urban nature of scheme corridor.	No Features Affected	Neutral
	Townscape	The overall baseline townscape quality within the study area is assessed to be ordinary to good (as the qualities of the different townscape areas range from poor to high quality). This scheme option is largely within the existing highway following the existing road layout but with an increased presence (wider footprint). There would be significant damage to the locally distinctive Holy Trinity Burial Ground, and demolition of culturally important listed buildings (Castle Buildings, Earl de Grey public house and north wall to Humber Dock). The three new pedestrian footbridges would be highly intrusive visual features, out of scale and character with the local townscape character of the central area of the scheme. Should the proposed mitigation be implemented and the three footbridges removed or become iconic designed structures then the overall assessment score could be reduced to slight to moderate adverse.	Not applicable	Moderate Adverse
	Heritage of Historic Resources	Despite recommended mitigation the proposals would have a large and direct adverse effect on High and Medium value heritage assets such that they would be lost or significantly damaged. This includes including the demolition of two Listed Buildings and the partial demolition of another, which results in a loss to the built heritage which cannot be adequately mitigated. Large adverse impact on Holy Trinity burial ground, requiring the exhumation of numerous burials. Little potential for archaeological preservation in situ, and construction will need to be preceded by some archaeological excavation.	Proposals will have an adverse effect on 73 known cultural heritage assets, including 6 Large adverse, 13 Moderate adverse, 41 Slight adverse and 13 Neutral adverse impacts.	Large adverse (negative) effect
	Biodiversity	There would be moderate adverse impacts on the Trinity Burial Ground SNCI due to a loss of foraging area and roosting sites for bats and several mature trees. Bird nesting sites will also be lost in the old wall. Other bat foraging areas, bird nesting sites and mature trees along Castle Street will also be lost. Negative impacts will be minimised through retention of existing vegetation and creation of species-rich grassland together with planting new native trees, hedgerows and shrubs. New habitats for invertebrates will provide foraging for birds and bats. Reconstructing an old wall will maintain potential habitats.	The mitigation measures will reduce the overall impact of the scheme form moderate adverse to slight adverse. 24 mature trees likely to be lost (including 7 with moderate or high bat roost potential)/ approx 0.4ha (33%) of SNCI lost.	Moderate Adverse
	Water Environment	The Humber Estuary and River Hull are outside the proposed improvement corridor. Considering the size of the Humber Estuary and the associated tidal flows, it is thought unlikely that the drainage of routine runoff from this 1.5km section carriageway will result in a significant adverse impact upon water quality. As a result significant adverse impacts upon the associated conservation designations are also considered to be unlikely. The site is not situated within a Groundwater Source Protection Zone, Nitrate Vulnerable Zone or Nitrate Sensitive Area. Risks to groundwater from carriageway drainage are considered to be negligible as the scheme drains to surface water sewers. The FRA has highlighted that the construction of underpass may increase the risk of groundwater flooding. It is recommended that a pumped system in considered. The FRA has highlighted minor adverse impacts upon the conveyance of flow of floodwater in the event that flood defences are breached. The introduction of an underpass could increase the risk of flooding from surface waters. It is recommended that a pumped system in considered.	The spillage risk calculations show that for the Underground Base Option the spillage risk is 0.1%, assuming an Emergency services response time of 20 minutes for an urban area. This is less than 0.5%, so no further spillage risk measures will be required to reduce the risk of a serious pollution incident.	Neutral
	Physical Fitness	Consolidation/removal of crossing points and replacement with footbridges would result in increased journey times and physical exertion.	Not Applicable	Neutral
	Journey Ambience	Impact on traveller car is neutral. The restricted views as the A63 moves into cutting at Mytongate GSJ and the new footbridges will result in travellers experiencing worse views. The scheme will reduce congestion and delays, the footbridges will remove the conflict between vehicles and pedestrians reducing driver stress. Traveller stress will improve.	Not applicable	Large Beneficial
SAFETY	**Accidents**	The scheme reduces accidents on adjacent roads due to traffic utilising the improvement to access Hull City Centre and A63 corridor. (Note: monetary values quoted in 2002 prices).	Accident 213.7 Fatal 0.4 Serious 14.9 Slight 302.1	PVB = £6.189m
	Security	Improvements to Castle Street will reduce the likelihood of vehicle travellers slowing or stopping. New footbridges would be well designed and adequately lit.	Not applicable	Slight Positive
ECONOMY	**Public Accounts**	The scheme will require public capital investment for construction. Indirect tax costs will be accrued over the life of the scheme equivalent to less than 0.6% of the investment cost. (Note: monetary values quoted in 2002 prices).	Central Govt PVC: Operating Costs: £0.0m, Investment Cost: £94.068m, Indirect Tax Revenues: £0.532m	PVC £94.600m
	Transport Economic Efficiency: Business Users & Transport Providers	Journey time savings accrue to users, due to reduced delays and higher operating speeds on the scheme. Vehicle operating costs are reduced due to lower operating times. Construction and maintenance savings accrue, due primarily to maintenance travel time savings. (Note: monetary values quoted in 2002 prices).	Business Users PVB £188.835m Transport Providers PVB £0.000m	PVB £188.835m
	Transport Economic Efficiency: Consumers	Journey time savings accrue to users, due to reduced delays and higher operating speeds on the scheme. Vehicle operating costs are reduced due to lower operating times. Construction and maintenance savings accrue, due primarily to maintenance travel time savings. (Note: monetary values quoted in 2002 prices).	Consumer PVB £148.997m	PVB £148.997m
	Reliability	Reliability will improve due to a combination of reduced congestion and accidents on the scheme. This will reduce day-to-day journey times variability and incident related delay and variability.	Stress levels are below 75% threshold for both the Do-minimum and Do-something.	Neutral
	Wider Economic Impacts	In terms of job creation it is estimated that the underground scheme option will generate between 323 and 571 additional new jobs. This equates to economic benefits of between £8.7 million and £15.4 million.	Not Applicable	Neutral
ACCESSIBILITY	**Option values**	No public transport routes will be added or withdrawn as a result of this option	Not Applicable	Neutral
	Severance	The key desire lines crossing the A63 occur at Mytongate and Princess Dock. At Mytongate the provisions of a dedicated footpath under the bridge will result in decrease in severance. This is offset by an increase at Princes Dock as the footbridge will result in increased journey lengths and a need to climb, increasing the severance.	Not applicable	Neutral
	Access to the Transport System	The proposals do not affect the existing public transport within the A63 corridor, and access to the transport system is not considered at this stage.	Not Applicable	Neutral
INTEGRATION	**Transport Interchange**	Improved journey time reliability may have a knock on effect allowing better co-ordination of timetabling and/or connections but it is not possible to assess the extent of any beneficial change at this stage.	Not Applicable	Neutral
	Land-Use Policy	This option scores well in relation to transport and regeneration policies but relatively poor in terms of environment particularly in relation to the built environment. On balance it is beneficial overall.	Not Applicable	Beneficial
	Other Government Policies	This option helps policies that relate to transport and the economy with significant benefits in terms of economic regeneration. There is however some environmental disbenefits. On balance it is beneficial overall.	Not Applicable	Beneficial