

Value for Money

INTRODUCTION

The scheme has been appraised utilising the best available data and proportionate methodologies, in line with Transport Appraisal Guidance, to ascertain the benefits arising from the interventions. Scheme costs have been developed based on current knowledge and risks, which will be further developed for the Full Business Case submission. Both costs and benefits for each of the individual elements, as well as the overall scheme package have been assessed in line with the current HM Green Book appraisal methodology to derive the overall cost-benefit ratio of the scheme package to inform the Value for Money categorisation outlined in the following sections.

SENSITIVITY AND RISK PROFILE

The economic appraisal has been undertaken for a High, Core and Low Growth scenario, based on current DfT guidance for use in forecasting and appraisal. The 'Core' Growth scenario is presented here, which is deemed to be the most likely projection.

Economic appraisal based on the High and Low forecast values are also presented in the following tables.

TAG is currently undergoing significant changes to reflect the post COVID impacts on future travel behaviours and the impact of Brexit. These projections are the latest forecasts and therefore should be considered as a robust appraisal of the potential benefits arising from the scheme package interventions. Values are presented for each package element, as well as a combined Programme of Work for the Core scenario in **Table 1** below.

Table 1: Economic Appraisal Summary Table: Core scenario

ID	Option	Core Growth			
		PVB	PVC	NPV	BCR
North Shields Transport Interchange & Town Square					
LOG 1.0	Transport Interchange	£14,940	£9,236	£5,704	1.618
AMAT 1.1	Town Square	£4,083	£1,676	£2,407	2.436
Bus Priority Corridor					
N/A	All Schemes	£0	£37	-£37	0.000
Fish Quay Link					
AMAT 3.1	Riverside Embankment Walkway	£3,673	£3,734	-£61	0.984
Highway Junction Improvements					
AMAT 4.1	Albion Road / Stephenson St / Linskill Tce	£237	£810	£462	1.570
AMAT 4.2	Union Quay / Brewhouse Bank	£725			
AMAT 4.3	Coach Lane / Prudhoe St / Howdon Rd / Waterville Rd Rbt	£310			
N/A	Albion Road West / Coach Lane (Spring Gardens) Signals	£0			
Cycle Corridors					
AMAT 5.2	A193 Corridor (Tynemouth Road)	£797	£1,032	£33	1.032
AMAT 5.3	Coast Road Quiet Way Link	£267			
Combined Programme of Works		£25,033	£16,526	£8,507	1.515

In order to test the robustness of the economic appraisal a number of sensitivity tests have been carried as described below.

It should be noted that assessment of the public realm, cycle and pedestrian elements of the scheme package have been appraised using the DfT's Active Mode Appraisal Toolkit (AMAT), in line with a proportionate approach to appraisal. Currently, AMAT does not include the functionality to provide High and Low growth forecasts, therefore only the assessment of the Bus Interchange varies between the three growth scenarios.

LOW TRAFFIC GROWTH

The impact on the economic appraisal for the Low growth scenario is summarised in the **Table 2**.

Table 2: Economic Appraisal Summary Table: Low scenario

ID	Option	Low Growth			
		PVB	PVC	NPV	BCR
North Shields Transport Interchange & Town Square					
LOG 1.0	Transport Interchange	£12,725	£9,188	£3,537	1.385
AMAT 1.1	Town Square	£4,083	£1,676	£2,407	2.436
Bus Priority Corridor					
N/A	All Schemes	£0	£37	-£37	0.000
Fish Quay Link					
AMAT 3.1	Riverside Embankment Walkway	£3,673	£3,734	-£61	0.984
Highway Junction Improvements					
AMAT 4.1	Albion Road / Stephenson St / Linskill Tce	£237	£810	£462	1.570
AMAT 4.2	Union Quay / Brewhouse Bank	£725			
AMAT 4.3	Coach Lane / Prudhoe St / Howdon Rd / Waterville Rd Rbt	£310			
N/A	Albion Road West / Coach Lane (Spring Gardens) Signals	£0			
Cycle Corridors					
AMAT 5.2	A193 Corridor (Tynemouth Road)	£797	£1,032	£33	1.032
AMAT 5.3	Coast Road Quiet Way Link	£267			
Combined Programme of Works		£22,818	£16,477	£6,341	1.385

HIGH TRAFFIC GROWTH

The impact on the economic appraisal for the High growth scenario is summarised in the **Table 3**.

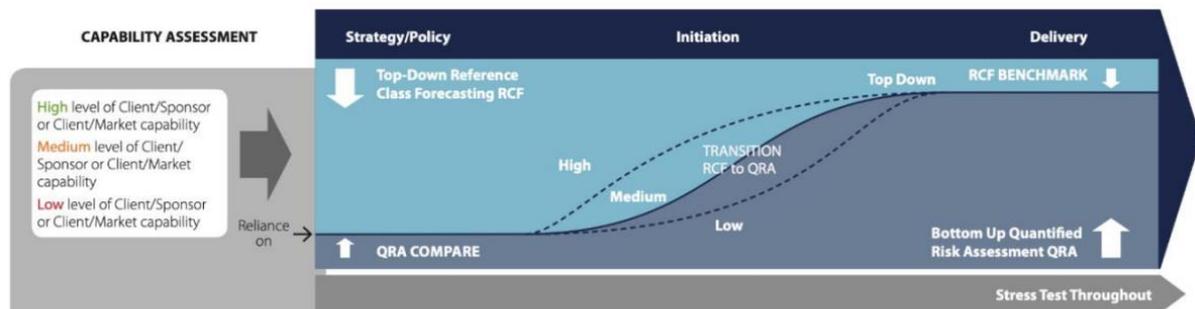
Table 3: Economic Appraisal Summary Table: High scenario

ID	Option	High Growth			
		PVB	PVC	NPV	BCR
North Shields Transport Interchange & Town Square					
LOG 1.0	Transport Interchange	£17,172	£9,285	£7,887	1.849
AMAT 1.1	Town Square	£4,083	£1,676	£2,407	2.436
Bus Priority Corridor					
N/A	All Schemes	£0	£37	-£37	0.000
Fish Quay Link					
AMAT 3.1	Riverside Embankment Walkway	£3,673	£3,734	-£61	0.984
Highway Junction Improvements					
AMAT 4.1	Albion Road / Stephenson St / Linskill Tce	£237	£810	£462	1.570
AMAT 4.2	Union Quay / Brewhouse Bank	£725			
AMAT 4.3	Coach Lane / Prudhoe St / Howdon Rd / Waterville Rd Rbt	£310			

ID	Option	High Growth			
		PVB	PVC	NPV	BCR
N/A	Albion Road West / Coach Lane (Spring Gardens) Signals	£0			
Cycle Corridors					
AMAT 5.2	A193 Corridor (Tynemouth Road)	£797	£1,032	£33	1.032
AMAT 5.3	Coast Road Quiet Way Link	£267			
Combined Programme of Works		£27,265	£16,575	£10,691	1.645

COST UNCERTAINTY

Scheme costs have been developed for each of the elements of the scheme with an associated level of risk applied determined by a Quantitative Risk Assessment (QRA), based on the current design and known investigation of the sites. As the scheme is currently in its initial stages, the QRA will be further developed at Full Business case submission once further risks have been identified, in line with the approach outlined in WebTAG Unit A1-2 'Scheme Costs' and summarised in the diagram below.



Source: Infrastructure and Projects Authority Risk Management Module (2016), slide 21

Furthermore, the economic appraisal includes optimism bias applied to the risk-adjusted scheme costs to further “stress test” the value for money of the scheme package. The impact of a significant increase in costs has been assessed, applying an optimism bias to the costs for a “Stage 1” scheme as defined in WebTAG Unit A1-2 Scheme Costs as noted in the table below.

Category	Stage 1	Stage 2	Stage 3
Local Authority and Public Transport Schemes	Strategic Outline Business Case (SOBC)	Outline Business Case (OBC)	Full Business Case (FBC)
Highways England Schemes	PCF Options Phase	Order Publication/Works Commitment	Construction Preparation
Railways	Grip Stage 1: Project Definition	Grip Stage 3: Option Selection	Grip Stage 5: Design Development

It should be noted that the just the risk-adjust scheme costs inform the funding ask for the scheme, with no optimism bias included. OB is therefore only used in the economic appraisal of the scheme to ensure the scheme still achieves value for money.

VALUE FOR MONEY

The proposed scheme provides Medium value for money with significant economic benefits combined with positive environmental and social benefits calculated from the Marginal External Cost approach. The scheme will support increases in sustainable travel and health benefits to areas of high deprivation through a switch to public transport, walking and cycling modes, whilst supporting connectivity to surrounding leisure and retail areas.

As outlined in guidance, the BCR will then partially inform the 'Value for Money (VfM)' case for the scheme, with consideration given to other impacts and elements of the scheme or scheme package. As a guideline, VfM categorisation generally follows as defined below, however forthcoming changes to the Green Book appraisal methodology may change this:

- poor VfM if the BCR is less than 1.0;
- low VfM if the BCR is between 1.0 and 1.5;
- medium VfM if the BCR is between 1.5 and 2.0;
- high VfM if the BCR is between 2.0 and 4.0; or
- very high VfM if the BCR is greater than 4.0.

The output from the economic appraisal Core Growth estimate is summarised in **Table 1** and below:

Present Value of Costs:	£16,526,000
Present Value of Benefits:	£25,033,000
Benefit to Cost Ratio:	1.515
Value for Money Categorisation:	Medium

KEY RISKS, SENSITIVITIES AND UNCERTAINTIES

The risks, sensitivities and uncertainties are summarised below:

- Travel behaviours may have changed as a result of the Covid-19 pandemic. With home-working still a process being used by business there may be a drop in demand for commuting trips on public transport, however this should be captured within the Low Growth scenario using DfT current projections of future growth values;
- Lack of political support leads to delays and potential cancellation;
- Additional utilities discovered requiring additional diversion design;
- Third party land ownership issues discovered on the cycle schemes, however care has been taken to ensure these lie within the current highway boundaries. Acquisition of the bus interchange site has already been undertaken therefore presents no scheme risk;
- Cost estimates increase between design and contractor detailed estimates;
- Topographical and PU surveys are inaccurate resulting in redesign work;
- Environmental surveys indicate unforeseen design constraints;
- Objections from statutory consultees cause delays and cost increases;
- Coordination with other scheme leads to delays/increased costs;
- Health and safety incidents lead to claims; and
- Ground conditions not fully investigated resulting in construction cost increases.