

3.8 ECONOMIC APPRAISAL

3.8.1 Introduction

This section provides a detailed overview of the costs and benefits associated with each of the selected short-listed options. The detailed information and calculations supporting the conclusions reached are attached at Appendix G – Skills and Talent Programme Cost Benefit Analysis. The calculations are at this stage of the Business Case process, based on external educational statistical data, as it is not possible to calculate specific City Deal Project requirements, costs and benefits. Costs are based on usual education costs and benefits are based on national statistics of additional income derived from each higher skill level.

3.8.3 Estimating Benefits

The Skills and Talent Programme has an enabling role in the SBCD in developing the appropriate skills supply pipeline to populate the additional jobs necessary for the City Deal projects to achieve their objectives from within the region as far as is possible. Consequently, any quantitative and qualitative benefits to be derived from the Skills and Talent Programme are effectively already 'double-counted' within these Projects' declared outcome targets.

The approach to the Skills and Talent Programme Business Case therefore is not to evaluate the Programme by the benefits delivered directly by the activity but to assess the cost effectiveness of the Programme in delivering the required skills (relative to existing skills delivery benchmarks) and as the means to compare different delivery options. The benefits to individuals from achieving incremental skills qualifications/levels in terms of additional annual remuneration is well documented from national statistics and other data. The estimated effects on regional income can therefore be calculated on an annual basis and the cost effectiveness of each option deduced.

To calculate benefits for the Skills and Talent Programme Options reference has been made to national statistics on additional income to be derived by individuals as each higher skill level is achieved.

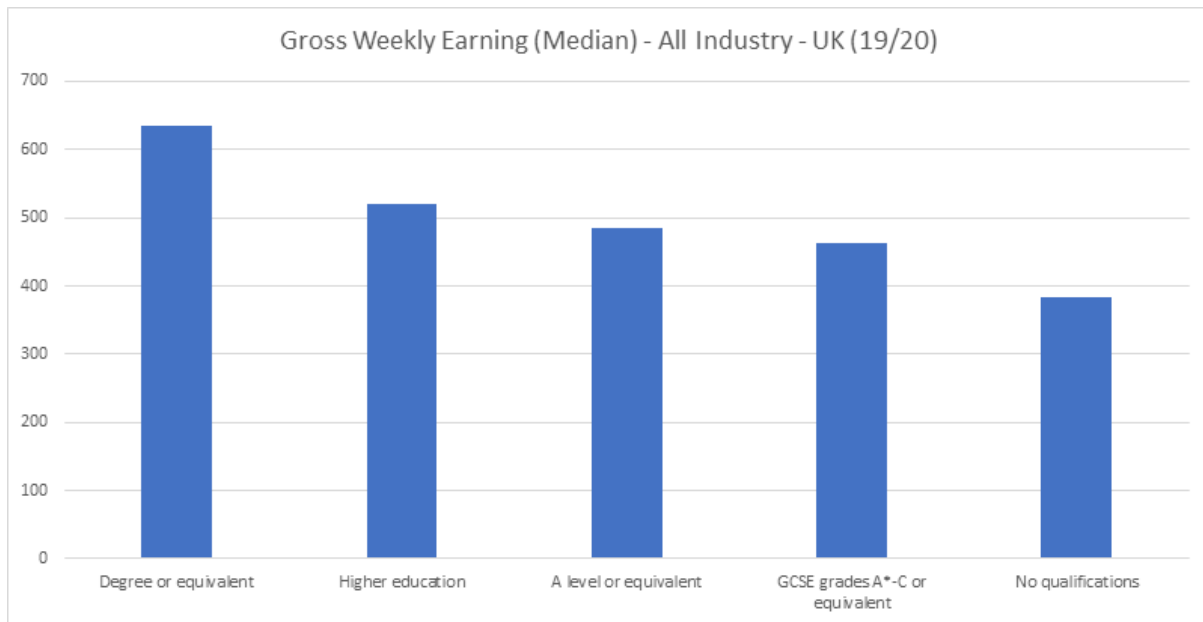


Table 13 - Summary of Additional Income by Skill Level

These translate into additional incomes as follows,

NVQ Skill Level Achieved	Additional Annual Income (per person)
Level 2	£4,160
Level 3	£1,040
Level 4	£1,560
Level 5	£1,560
Level 6-8	£5,720

With regard to assessing net benefits for the City Deal region, allowances for leakage, displacement, multiplier effects and deadweight are already included within the project Business Cases for each of the other City Deal Projects,

- **Leakage** – anticipated leakage beyond the City Deal target area is already included within each City Deal Project Business Case and can therefore be ignored for the Skills and Talent Programme
- **Displacement** – as the Skills and Talent Programme will only deliver new skills/courses which do not currently exist, displacement is expected to be zero
- **Multiplier effects** – any multiplier effects from economic activity associated with additional local income and local supplier purchases have been ignored as all benefits are already included within each City Deal Project Business Case
- **Deadweight** – as, by definition, the Skills and Talent Programme will only deliver new skills/courses for Projects which would not materialise without the City Deal, deadweight is assumed to be zero.

To calculate the benefits for each Option, the respective breakdown of skills to be offered by level set out in Section 3.2 above has been used. The calculations have assumed skills delivery being split evenly over the 5-year delivery period and that additional annual income,

for each respective additional skills level achieved by an individual learner, is first earned 12 months after completion of the respective course. The annual income growth will be measured over 15 years. For example, a full-time Level 3 learner on a 1-year course, and who commenced study in Year 3 of the Programme, would first earn additional income in Year 5 of the Programme. Likewise, a part-time Level 6 learner undertaking a 6 year course, and who commenced study in Year 5 of the Programme would not earn additional income until Year 12 of the Programme.

3.8.3 Summary of Benefits

	Option 1: Business as usual	Option 2: Supported City Deal Skills Fund	Option 3: Targeted Skills Delivery	Option 4: City Deal Ambitious
Operational phase impacts				
Additional Income Generated p.a. at the end of the Programme period	-	£1.82M	£5.46M	£32.12M
No. of Additional Skills Delivered	-	760	2,276	14,000

Table 14 – Summary of Additional Annual Income and Skills Delivered

3.8.4 Estimating Costs

Methodology

Costs have been calculated using current course fees for skills being delivered in the region within related skills disciplines. The calculations have taken into account the number of skills expected to be delivered at each skill level in accordance with the table in Section 3.2 above, broken down into the projected proportion of full time and part time learners.

Optimism Bias

An allowance for optimism bias of 10% has also been made for each short-listed option to account for those risks not reflected. The extent of optimism bias has been derived through consideration of the level of remaining risk and potential for increase. As all costs are based on current, standard public sector course costs, the potential for cost increase (excluding for inflation) is very low. Whilst the Programme will require the development of new courses, these costs are expected to be absorbed by the educational provider and recovered through course fees.

As with economic benefits, the economic costs for all short-listed options have been appraised over a 15-year period (in line with the funding model for the SBCD), after allowing for Optimism Bias of 10% and discounted at a rate of 3.5% in line with the HM Treasury Green Book. All discounted costs have been presented in 2021 prices, with general inflation excluded.

Description, Sources and Assumptions

The gross costs and funding under each of the short-listed options are described in Table 14 below,

Source of funding	Option 1: Business as usual	Option 2: Supported City Deal Skills Fund	Option 3: Targeted Skills Delivery	Option 4: City Deal Ambitious
City Deal	-	£10,000,000	£10,000,000	£57,552,000
Other Public Sector	-	-	£16,000,000	£92,083,200
Private Sector	-	-	£4,000,000	£4,000,000
Total gross cost	-	£10,000,000	£30,000,000	£153,635,200
Optimism bias (OB) @10%	-	£1,000,000	£3,000,000	£15,363,520
Total gross cost plus OB	-	£11,000,000	£33,000,000	£168,998,720

Table 15 - Summary of Gross Costs and Funding Sources

Net Present Cost Findings (All Public Sector Costs, but excludes private sector costs/investment)

	Undiscounted Value (£)	Net Present Value (£)
Option 1 – Business as usual		
Additional Income Generated	-	-
Less City Deal funding	-	-
Less Other Public Sector Funding	-	-
Total	-	-
Option 2 – Supported City Deal Skills Fund		
Additional Income Generated	£16,537,040	£11,932,301
Less City Deal Funding	£10,000,000	£9,812,949
Less Other Public Sector Funding	-	-

Total	£6,537,040	£2,119,352
Option 3 – Targeted Skills Delivery		
Additional Income Generated	£49,603,320	£35,788,186
Less City Deal funding	£10,000,000	£9,812,949
Less Other Public Sector Funding	£16,000,000	£15,700,965
Total	£23,603,320	£10,274,272
Option 4 – City Deal Ambitious		
Additional Income Generated	£292,948,032	£211,535,059
Less City Deal funding	£57,552,000	£56,482,633
Less Other Public Sector Funding	£92,083,200	£90,372,214
Total	£143,312,832	£64,680,212

Table 16 – Net Present Cost Findings

Option Ranking

The Short-listed Options have been ranked in terms of their respective costs and benefits (All Public Sector Costs). The results are summarised in Table 17. It can be seen that whilst Option 4 ranks the highest in terms of costs, it ranks the highest in terms of additional income benefits and overall Net Present Value (costs net all benefits), followed by Option 3.

Options Ranking	Option 1: Business as usual	Option 2: Supported City Deal Skills Fund	Option 3: Targeted Skills Delivery	Option 4: City Deal Ambitious
Net Present Cost	1	2	3	4
Additional Income	4	3	2	1
Net Present Value	4	3	2	1
Overall Ranking	4	3	2	1

Table 17 – Short-list Options Costs and Benefits Ranking

Value for Money Assessment

City Deal Funding only

	Option 1: Business as usual	Option 2: Supported City Deal Skills Fund	Option 3: Targeted Skills Delivery	Option 4: City Deal Ambitious
City Deal funding (after allowing for optimism bias)				
Undiscounted City Deal funding	-	£10,000,000	£10,000,000	£57,552,000
Discounted City Deal funding	-	£9,812,949	£9,812,949	£56,475,484
Additional Income benefits (discounted)				
		£11,932,301	£35,788,186	£211,535,059
Cost effectiveness				
Cost per net additional skill	-	£12,912	£4,460	£4,034
Benefit/Cost Ratio	-	1.216	3.647	3.745

Table 18 – Value for Money Assessment, City Deal Costs only

All Public Sector Costs

	Option 1: Business as usual	Option 2: Supported City Deal Skills Fund	Option 3: Targeted Skills Delivery	Option 4: City Deal Ambitious
All Public Sector funding (after allowing for optimism bias)				
Undiscounted Public Sector funding	-	£10,000,000	£26,000,000	£149,635,200
Discounted Public Sector funding	-	£9,812,949	£25,516,897	£146,854,847
Additional Income benefits (discounted)				
		£11,932,301	£35,788,186	£211,535,059
Cost effectiveness				
Cost per net additional skill	-	£12,912	£4,460	£4,034
Benefit/Cost Ratio	-	1.216	1.403	1.440

Table 19 – Value for Money Assessment, All Public Sector Costs

Option Appraisal Conclusions

Whilst Option 4 can potentially achieve the highest additional income benefits, this is primarily a reflection of the much greater quantum of skills delivery and the additional costs required. Despite the much greater scale, and attendant risks of delivering such a large Programme, it achieves only a relatively small increase in the Benefit/Cost ratio and reduction in average costs for delivery of each additional skill. Consequently Option 3 was chosen as the Preferred Option going forward.

3.9 QUALITATIVE BENEFITS APPRAISAL

Methodology

In line with HM Treasury Green Book supplementary guidance on Business Cases, the qualitative benefits under each option have been weighted and scored. This was undertaken by:

- identifying the benefits criteria relating to each of the investment objectives.
- weighting the relative importance (in %s) of each benefit criterion in relation to each investment objective.
- scoring each of the short-listed options against the benefit criteria on a scale of 0 to 9; and
- deriving a weighted benefit score for each option.

Qualitative Benefits Criteria

The weights that were applied to each investment objective / benefits criterion are shown in Table 20 below.

Investment Objectives	Qualitative Benefits	Weight Total 100%
Objective 1: To directly deliver at least 2,200 additional skills and support the development of around 14,000 individuals with higher level skills (level 2-8) within 10 years.	<ul style="list-style-type: none"> • Higher skilled individuals for the jobs created through the City Deal projects. • Increased number of individuals progressing into a career offering higher earnings. • Increased number of people gaining a permanent role, moving from temporary or zero hour contracts. 	30%
Objective 2: To create 3,000 new apprenticeship opportunities to include level 3 through to Degree apprenticeships.	<ul style="list-style-type: none"> • Opportunities for all to achieve a qualification and skills for a career pathway in a vocational occupation. • Increased number taking up opportunities through the apprenticeship route to further their career in specialist areas developed through the 8 City Deal projects. • Increased number of individuals entering the Degree apprenticeship programme. 	25%

<p>Objective 3: To create at least 2 Centres of Best of Excellence within specific sector(s) to develop the region as being the best area for skills development.</p>	<ul style="list-style-type: none"> • Developing a Centre that specialises in the development of fit for purpose skills within a particular sector(s) • Increase investment in the region for specialist sectors as a result of a specific Centre of Excellence for skills. • Increased awareness of the job opportunities in region as a result of the Centre of Excellence through the 8 City Deal projects and other associated investment. 	15%
<p>Objective 4: To create a clear pathway from school education through FE and HE in the key areas of digital, energy, smart manufacturing and life-science and wellbeing, through engagement and development work with schools increasing the number of pupils following the STEM subjects in FE and HE.</p>	<ul style="list-style-type: none"> • The engagement with schools will develop the pathway for children from primary school through to secondary school through the introduction of new vocational training opportunities specialist workshops etc. • Integrate the City Deal projects within the curriculum of every school in the region, to generate awareness of the opportunities and the new skills that will be needed for the jobs created. • Increased work experience for pupils and students through the 8 City Deal projects to raise awareness of the skills needs. • Increased number of students studying STEM subjects in FE or HE. 	20%
<p>Objective 5: Deliver 20 new/updated course frameworks to ensure they meet the training needs of the future.</p>	<ul style="list-style-type: none"> • Developing new and updating existing frameworks to meet the needs of the projects and employers across the region. • Reduce duplication and focus training in key areas to increase opportunities. • Ensure that frameworks are developed to meet the longer term (10-15 year) skills needs. 	10%

Table 20 – Qualitative Benefits Weighting

Qualitative Benefits Scoring

Benefits scores were allocated to each option according to its contribution to the investment objectives. The scores were based on a scale from 0-9, with the scores to be interpreted as follows:

- 7 – 9: a significant positive impact;
- 4 – 6: a positive impact;
- 1 – 3: a marginal positive impact; and

- 0: a neutral / no change position.

The scores for each option were discussed and agreed by workshop participants to confirm that the scores were fair and reasonable.

3.10 ANALYSIS OF KEY RESULTS

The results of the benefits appraisal are shown in Table 21 below,

Benefit Criteria and Weight	Option 1: Business as usual		Option 2: Supported City Deal Skills Fund		Option 3: Targeted Skills Delivery		Option 4: City Deal Ambitious	
	R	W	R	W	R	W	R	W
Raw (R) weighted (W) scores								
Objective 1: To directly deliver at least 2,200 additional skills and support the development of around 14,000 individuals with higher skills (level 2 – 8) within 10 years.	0	0	4	1.2	7	2.1	9	2.7
Objective 2: To create 3,000 new apprenticeship opportunities to include level 3 through to Degree apprenticeships.	0	0	7	1.8	7	1.8	7	1.8
Objective 3: To create at least 2 Centres of Best Practice within specific sector(s) to develop the region as being the best area for skills development.	0	0	6	0.9	6	0.9	6	0.9
Objective 4: To create a clear pathway from school education through FE and HE in the key areas of digital, energy, smart manufacturing and life-science and wellbeing, through engagement and development work with schools. Increasing the	0	0	5	1.0	7	1.4	7	1.4

number of pupils following STEM subjects in FE and HE.								
Objective 5: Invest in the delivery of 20 new/updated course frameworks to ensure they meet the training needs of the future.	0	0	3	0.3	6	0.6	8	0.8
Total	0	0	25	5.2	33	6.8	37	7.6
Percentage Scores (Max. 90%)		-		52%		68%		76%
Rank	4		3		2		1	

Table 21 – Qualitative Benefits Appraisal Key Results

The key considerations that influenced the scores achieved by the various options were as follows:

Option 1 – This Option would bring no change to the existing scale and scope of skills delivery thereby delivering no additional benefits to the regional economy.

Option 2 – The Supported City Deal Skills Fund would only deliver a proportion (c.30%) of the new skills training required. It would provide assistance and support to the development of apprenticeships, Centres of Excellence and Schools engagement but in a responsive rather than programmed manner. It would not have the capacity to support investment in new course frameworks which would be left to individual organisations without critical mass.

Option 3 – Targeted Skills Delivery would have a positive, or significantly positive, impact on all 5 Investment Objectives and enable a co-ordinated and sustainable approach to the timing and delivery of Programme outputs.

Option 4 – This Option would have a positive, or significantly positive, impact on all 5 Investment Objectives and deliver major additions in terms of regional skills provision and sustainable Programmes resulting in the highest percentage benefits score of all the Options and is therefore ranked 1st.

3.11 RISK APPRAISAL - UNQUANTIFIABLES

A risk analysis has been undertaken that encompasses an assessment of the main risks associated with the project. The analysis has been informed by the guidance contained within the HM Treasury's Green Book. A workshop was held on the 21st April 2021 to evaluate the risks associated with each option. A summary of the key risk areas is set out below, identifying the risks that may affect the successful delivery of the Programme and the overall severity of each risk, based upon a judgement of the probability and potential impact.

Methodology

Within the risk table below a score has been given to the probability of each risk arising – ranging from very high (a maximum score of 5) to very low (a score of 1). The impact of each risk has also been assessed, using the same scoring range as has been used for probability (i.e. a range of 1-5). The overall risk score is calculated by multiplying the probability score by the impact score (giving a maximum score of 25, representing an extreme risk). The scores can be banded low, medium or high to provide an indication of the overall rating of each risk.

Risk Scores

The workshop assigned the risk scores shown in Table 22 below on the basis of participants' judgements and assessments of previous projects.

Summary of Risk Appraisal Results (Pr. = probability)	Strategic Risk No.	Impact	Option 1: Business as usual		Option 2: Supported City Deal Skills Fund		Option 3: Targeted Skills Delivery		Option 4: City Deal Ambitious		
			Pr.	Tot.	Pr.	Tot.	Pr.	Tot.	Pr.	Tot.	
City Deal Funding not secured – without this funding the programme will not be implemented.	1	5	-	-		2	10	2	10	5	25
Project partners operating their own skills projects	2	4	-	-		5	20	3	12	3	12
Insufficient capacity and capability to Project manage the programme and to deliver the stated activities and results	3	4	-	-		4	16	2	8	4	16
Organisational and financial risks associated	4	3	-	-		3	9	3	9	5	15

with taking on this project											
The programme does not secure sufficient partner/stakeholder buy in.	5	5	-	-		5	25	3	15	5	25
Slippage to the project timescales	6	2	-	-		4	8	3	6	4	8
Failure to increase the number of skilled individuals.	7	5	-	-		4	20	3	15	3	15
Lead times in the development of a new skills offer in the region.	8	2	-	-		5	10	3	6	5	10
Failure to engage with training providers to deliver the necessary skills development	9	4	-	-		4	16	2	8	4	16
Total (Maximum Possible Score 161)				-			134		89		142
Rank				4			2		1		3

Table 22 – Risks Assessment

3.2 THE PREFERRED OPTION

The results of the investment appraisal are summarised in Table 23 below.

Evaluation Results	Option 1: Business as usual	Option 2: Supported City Deal Skills Fund	Option 3: Targeted Skills Delivery	Option 4: City Deal Ambitious
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Economic appraisals	4	3	2	1
Benefits appraisal	4	3	2	1
Risk appraisal	4	2	1	3
Overall Ranking	4	3	1	2

Table 23 – Short-list Options Evaluation Results

On the basis of this analysis, the preferred option is Option 3 – Targeted Skills Delivery. Whilst Option 4 – City Deal Ambitious scored 1st in the Economic and Benefits Appraisals, this is purely a reflection of the much higher costs and scale of the skills delivery projected. The level of funding for a Programme of this scale not currently available and there would be very significant delivery risks due to the enormous increase in regional capacity and capability that would be required. Option 3 can be delivered within identified costs at a low risk exposure and can deliver the prime objective of ensuring sufficient new and additional skills can be provided to meet the needs of the other City Deal Projects. This has therefore been selected as the Preferred Option going forward.

3.3 SENSITIVITY ANALYSIS

The methods used were:

- a) 'switching values'
- b) scenario planning/ analysis ('what if ') by altering the values of the 'uncertain' costs and benefits to observe the effect on the overall ranking of options.

Results of Switching Values

Table 24 below shows the values (in %'s) at which the preferred option would change in the overall ranking of options. As all external Programme benefits are, by definition, included within the other City Deal Projects' Business Cases, the switching values analysis looks only at the impact on each Option of changes in public sector cost and additional income benefits to individuals in achieving increased skills levels. Under the current Programme approach, new skills would be delivered over the first 5 years and aggregate additional income would accumulate year on year to reach maximum benefit at the end of the SBCD Programme benefits period in 15 years. To estimate total Programme benefits and to calculate the Net Present Value of additional income benefits for comparison purposes, benefits have been assumed to occur within 1 year after each learner completes the additional skills level course as set out in Section 3.8 above.

Change in Costs (%)	Option 1: Business as usual	Option 2: Supported City Deal Skills Fund	Option 3: Targeted Skills Delivery (Preferred Option)	Option 4: City Deal Ambitious
Total costs	-	-	-	-75.63%

Additional Learner Income benefits	-	+300%	-	-
NPV/C	-	+15.38%	-13.33%	-

Table 24 – Results of Switching Values

Key Observations

The assessment of switching values shows that the benefits under the alternative options would have to increase considerably, compared to the preferred option, in order to change the overall ranking of options. The magnitude of change required is such that Option 3 can be identified as the preferred option with a high degree of confidence.

Results of Scenario Planning

Tables 25 below summarises the results associated with variances made to increasing costs, the time taken to deliver the Programme benefits and reducing overall benefits, as follows.

- 20% increase in costs
- 1-year delay in benefits
- 40% reduction in benefits

Net Present Value (15-year appraisal)	Option 1: Business as usual	Option 2: Supported City Deal Skills Fund	Option 3: Targeted Skills Delivery	Option 4: City Deal Ambitious
Base	-	£2,119,352	£6,348,876	£60,754,534
Increasing costs by 20%	-	£156,763	£461,015	£30,598,430
1-year delay in benefits	-	£996,275	£2,977,715	£40,906,125
Reducing benefits by 40%	-	-£2,653,568	-£7,966,398	-£23,859,489

Table 25 – Results of Scenario Planning

Summary Table of Economic Appraisals

The results of the economic appraisals above are summarised in Table 26 as follows. As explained above, the only benefits captured are additional learner wage benefits as all other benefits and unquantifiable factors are contained within the specific Business Cases of the other 8 City Deal Projects the Skills and Talent Programme will support.

Summary of Economic Appraisal	Option 1: Business as usual	Option 2: Supported City Deal Skills Fund	Option 3: Targeted Skills Delivery	Option 4: City Deal Ambitious
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Net Present Value (after allowing for private sector investment)	-	£2,119,352	£6,348,476	£60,754,534
Public Sector Cost	-	£9,812,949	£25,516,897	£146,854,847
Appropriate BCR	-	1.216	1.403	1.440
Significant un-monetizable costs/benefits	-	N/A	N/A	N/A
Significant unquantifiable factors	-	N/A	N/A	N/A
Risk costs (increased education delivery costs) - residual optimism bias (undiscounted)	-	£1,000,000	£3,000,000	£15,363,520
Switching Values (preferred option only)			-13.33%	
Time Horizon and Reason	15 Year Programme Period in accordance with City Deal requirements			

Table26 – Economic Appraisal Summary