



## CBA Builder Simple Worksheet 1: Enterprise Training Centre

You are required to perform a project appraisal for an enterprise training centre (ETC) which is being considered by a City Council. The ETC will be constructed on the site of a derelict stable block which has become a local problem associated with anti-social behaviour. The idea of the ETC is therefore popular in the local area, and with the City Council, as it should reduce anti-social behaviour and will be used to train local young people and help them to start up their own businesses with the guidance of skilled staff at the centre.

### Initial Costs

The site will need to be purchased at a cost of around £239,950 and planning will have to be agreed at a cost of approximately £32,000. Both the purchase of the land and the planning agreement must be in place before construction can begin.



Construction is estimated to take two years due to the poor state of the current site and the complex design of the ETC. Initial construction costs estimated by the contractor, which occur in year 0, include demolition and site clearance estimated at around £50,000, ground works at £38,000, building materials at £102,000, plant rental at £150,000, and wages for 10 workers at £8 per hour, and a site manager at £22 per hour. Estimated staffing times are 40 hours per week all year (47 weeks) for the site manager, and 38 hours per week for 20 workers all year (47 weeks).

Construction costs in year 1 are estimated as building materials at £215,000, plant rental at £90,000, and wages for 20 workers at £8 per hour, and a site manager at £22 per hour. Estimated staffing times are 40 hours per week all year for the site manager, and 38 hours per week for 20 workers all year. The inflation or growth rate of all construction workers wages is 1.5%

A number of other initial set-up costs will be experienced. It is estimated that the centre will need a manager, two administrative employees, and six enterprise workers who will provide the frontline business building service to the young people in the area. Initial one-off human resource costs associated with the advertising, interviewing, and training of these staff is estimated at £12,000.

### Ongoing Costs

A number of ongoing costs need to be considered in the CBA. These include the wages of the staff discussed above. The annual salary for the manager will be £45,000, £14,000 for the administrative staff, and £21,000 for the six enterprise workers. The growth rate for all staff wages is 1.5%, but all of these staff will not begin working until year 1.

In addition, there is a significant maintenance cost associated with the ETC estimated at £22,000 per annum. Bills including electricity, gas, and water usage are estimated to cost £7,000 per annum in total. Administrative costs including accounts, advertising, producing annual reports etc. are estimated at £10,000 per annum. These costs will be incurred from year 2 onwards. The growth rate for the costs is estimated at 1.5%.

### **Benefits**

The benefits of the enterprise training centre are much less clear than the costs, however, a number of important potential benefits exist.

Benefits include a 50% reduction in anti-social behaviour in the area. This currently costs the City Council an estimated £18,000 per annum in repair costs, administration, and policing (growing at a rate of 2.5% per annum). It is estimated that the benefits from reduced anti-social behaviour will begin immediately.

The centre will have an economic multiplier effect in the area as young people trained at the centre will start their own businesses increasing the output in the area. For the initial investment made in the centre, the multiplier is estimated to be around 1.12. This means that for the 9 jobs initially created in the centre, there will be an economic multiplier effect of creating an additional job in the area each year ( $1.12 \times 9 = 10.08$  jobs in total). The value of each additional job can be determined using the average national annual wage (£26,020 in 2009). This job will first be created in year 3, with an additional job being created each year thereafter. The growth rate of wages is again 1.5%.

The City Council will also benefit from increased revenues from taxation estimated to begin in year 1 at a present value of £50,000 with an annual growth rate of 2.5%.

There will also be a net benefit felt from the reduction in unemployment which will reduce the benefit burden in the area. Unemployment is estimated to reduce by 0.1% per annum beginning in year 2, with a reduction in benefit payments of £35,000 per 0.1% reduction in unemployment. This benefit will accrue from year 2 until year 9 after which the net benefit will cease.

### **Questions**

1. Using the data on costs and benefits provided what is the NPV and BCR associated with the project given a CBA period of twenty years?
2. How does the CBA result differ if all initial construction costs (from years 1 and 2) increase by 10%?
3. Calculate a horizon value using the simple projection method, given estimated annual long term future benefits of £0.1m, a social discount rate of 3%, and a growth rate of 1.2%.
4. How does the horizon value affect the outcome of the CBA?
5. What effect does a change in the discount rate have on the CBA result?
6. Given the results of the CBA with and without the horizon value, and with differing social discount rates, do you think the project should go ahead? Explain your answer.