Deloitte Access Economics

A cost benefit analysis of the Fairbridge Bindjareb Project

Fairbridge Western Australia

15 February 2016

Deloitte Access Economics

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15 February 2016

Dear Mark

Re: Cost benefit analysis of the Fairbridge Bindjareb Project

Thank you for the opportunity to work with Fairbridge Western Australia to develop this study. This represents our draft report on the Fairbridge Bindjareb Project.

As specified in our engagement letter dated 6 October 2015, Deloitte Access Economics has undertaken a cost benefit analysis of the Fairbridge Bindjareb Project, based on Fairbridge's plans to expand delivery of the program. This analysis has been based on data supplied by Fairbridge Western Australia, data outlined in the Fairbridge Centre for Social Innovation's preliminary review of program processes and outcomes, as well as findings from similar studies.

Overall, we have estimated the economic value from two benefits anticipated to arise as a result of the Fairbridge Bindjareb Project expansion (reduced recidivism and enhanced productivity). These benefits have been compared against the estimated costs associated with delivery of the expanded project. Based on our analysis, we have found that the benefit cost ratio of the expanded Fairbridge Bindjareb Project is **2.49.**

Should you have any question about our analysis, please do not hesitate to contact me on (08) 9365 8095.

Yours sincerely

Matt Judkins

Director
Deloitte Access Economics Pty Ltd

A cost benefit analysis of the Fairbridge Bindjareb Project (1 of 2)

Executive Summary

About the Fairbridge Bindjareb Project

The Fairbridge Bindjareb Project (FBP) is a collaboration between Fairbridge Western Australia Inc., the Government of Western Australia's Department of Corrective Services and industry partners. The Project aims to provide Aboriginal and Torres Strait Islander people who are detained through the criminal justice system with industry training in a supportive environment leading to guaranteed jobs and an opportunity for long term careers in the resources sector and associated industries.

The FBP framework is designed to provide holistic support and healing to participants, with a focus on personal development that is culturally appropriate and helps to facilitate sustainable employment and effect meaningful life change (see Figure 1.1). The program aims to deliver benefits to both individual participants and the broader community.

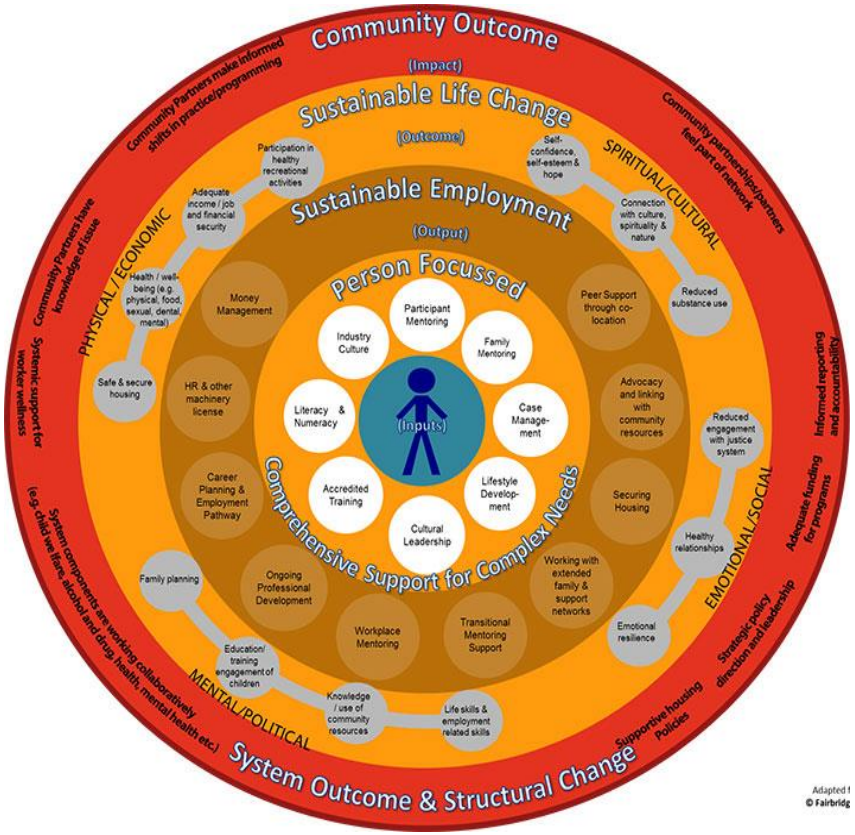
A unique aspect of the FBP (as possibly a part of its success to date) is that Aboriginal people have designed the program, continue to operate it, and have significant input into its on-going development.

Aims and outcomes of this study

Deloitte Access Economics undertakes a cost benefit analysis (CBA) of the program to estimate the value of the expected economic benefits that would arise from the expanded delivery of the FBP. In 2015 an evaluation of FBP was conducted by the Fairbridge WA Centre for Social Innovation (CSI). The findings of the CSI have formed the basis for a number of assumptions made in this study. Key benefits considered include lower recidivism and greater productivity.

The CBA undertaken finds that the program represents value for money with a benefit cost ratio (BCR) of 2.49. This means that for every dollar spent on the program, approximately $2.49 worth of economic benefits are generated for society. The greatest benefit comes from increased productivity.

Figure 1.1 – Weaving Results Conceptual Framework



Source: Fairbridge Western Australia Inc. Adapted from Rutman et al (2012)

Productivity improvements arise from the provision to individuals, the necessary skills to maintain employment post incarceration, better enabling them to avoid future imprisonment and participate in the workforce. Related to this, a significant benefit is also derived for taxpayers by avoiding the cost of future re-incarceration (recidivism).

A cost benefit analysis of the Fairbridge Bindjareb Project (2 of 2)

Executive Summary (continued)

Conservative approach = potential for higher return

The study has relied on conservative assumptions where program data has been unavailable. This approach avoids overstating the value of the program. However, it is noted that conservatism is also likely to understate the value of the program. Therefore, the outcomes of the analysis are likely to not fully represent the strength of the program.

In particular, the CBA is based on program outcomes observed in the first five intakes of the FBP - the first three of which were pilot programs. It is expected that program outcomes will have improved in subsequent intakes (a total of 11 intakes have occurred to date, although data on outcomes since the fifth intake is currently being collected).

Key changes have been applied to the program since the early intakes which are reportedly yielding improved outcomes. However, in the absence of this data, such benefits are excluded from this study.

A number of sensitivity tests are however conducted to illustrate how the BCR metric changes under differing assumptions (see page 31). For example, employing an 'ex-post' approach (where program establishment costs are *excluded* from the CBA) yields a higher BCR of 2.84.

Similarly, varying the assumptions around the employment tenure of participants also has an impact on the BCR. The baseline analysis assumes most participants are not 'employed for life' following participation in the program. Rather, an employment tenure of 2.6 years is applied, being the average *job tenure* of Australian employees aged 25-35 years. However, extending this employment tenure to - for example - 8 years increases the BCR to 3.38.

Beyond dollars and cents: overcoming pervasive social challenges

Although the key objective of this CBA is to estimate the value of the expected economic benefits that would arise from the expanded delivery of the FBP, it is important to note that there are limitations to the extent to which this is possible due to data availability.

Therefore, some important relevant benefits cannot be quantified in the CBA, but are considered qualitatively. These qualitative benefits are likely to be significant.

This is because, in addition to assisting Aboriginal ex-offenders to remain out of prison and transitioning them into paid employment, the FBP delivers a range of services which primarily result in outcomes and benefits linked to deeper, more complex and pervasive social problems.

For example, participants are supported by mentors to reconnect with their Aboriginal culture and identity and to learn essential life skills. Due to the nature of these benefits, estimates of their value are difficult to generate.

Additionally, the critical benefit of breaking the cycle of intergenerational offending is also unquantified in this study. Research has established that criminal behaviour can be generational, with children and grandchildren of a parent with a criminal history more likely to engage in criminality.

As such, preventing the reoccurrence of criminal behaviour may have far greater implications for the future than for that of the offender alone. While there are many factors that influence criminality (which makes isolating the impact of a single factor difficult), interventions like FBP are recognised as being able to break the cycle of reoffending.

Given this assessment considers purely economic metrics and delivers a positive result for FBP, should some of these other non-quantifiable benefits included there is potentially significant additional value generated by the FBP.

FBP: meaningful change, improved welfare

As is clear from this analysis, FBP generates a meaningful change in the lives of many of the participants who complete the program. Improving the welfare of Aboriginal Australians is the mandate of numerous government policies, including *Closing the Gap* and the *Reconciliation Action Plan*. The objective of these policies is to reduce the disparity in equity between Indigenous Australians and non-Indigenous counterparts. On current observations, an expanded FBP could be a critical tool to achieving these objectives.

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1. Background

Background (1/3)

Deloitte Access Economics have been engaged by Fairbridge to undertake a cost benefit analysis based on the results of the first five intakes of the Fairbridge Bindjareb Project

The objective of this analysis is to estimate the expected economic benefits and costs that will arise from the expanded delivery of the Fairbridge Bindjareb Project (FBP) to demonstrate potential benefits generated and costs avoided from interventions that focus on economic and social outcomes.

The Fairbridge Bindjareb Project

Project summary

Fairbridge is a major youth charity and Registered Training Organisation (RTO). Fairbridge owns and operates a town site named Fairbridge village near Pinjarra just south of Perth, Western Australia (WA). The organisation delivers a range of programs aimed at achieving positive, long-term sustainable change in the lives of young people in need, as well as their families. FBP is one such program.

The FBP is a collaborative program between Fairbridge, the Department of Corrective Services (DCS) and industry partners. The program provides Aboriginal and Torres Strait Islander men who are currently incarcerated with workplace training in a supportive environment.

The training program provides the opportunity for participants to attain industry qualifications, along with the necessary life skills and lifestyle changes, confidence and resilience to achieve and sustain employment. Upon completion, the program leads to guaranteed employment in the resources and associated sectors (in the first five intakes this was solely through Bis Industries, although more recently other industry partners are also involved) following the prisoners' release from custody.

A key longer-term desired outcome of the program is to effect positive, sustainable change in the lives of participants and their families by role-modelling positive behavioural change for future generations.

In late 2010, the first intake of participants of the FBP commenced training as part of the program. The program was run as a pilot project during the first three intakes (until 2012). During the first year, Bis Industries was the RTO responsible for delivery of the Certificate II training. However, from the third intake (commencing February 2012) this role was transferred to Fairbridge, allowing the project to explore other partnering opportunities to broaden the employment options available to graduates of the program.

Fairbridge is now seeking to expand the FBP, and as such has engaged Deloitte Access Economics to estimate the net benefits to the community from a proposed program expansion.

Since the first cohort graduated in 2010, 54 participants have undergone training through the first five intakes of the Fairbridge Bindjareb Project

Background (2/3)

Participants undertake industry relevant training prior to their release from prison

Delivery Method

To be eligible for the program, prisoners must be of Aboriginal or Torres Strait Islander descent, and have achieved a minimum security rating. They must be deemed to pose minimal risk to the security and safety of the community, and currently be in custody at a WA prison. They must also apply to participate in the project.

Following placement in the program, participants are relocated to Karnet Prison Farm and travel daily (Monday to Friday) to Fairbridge Village (located five kilometres north of Pinjarra WA).

Participants are employed by DCS and contracted as trainees, which includes payment of a wage (referred to as a 'gratuity'). As they undertake the 16-week program, participants study toward the achievement of Certificate II in Surface Extraction Operations. Graduates with this certification are able to work as an operator on sites such as an open cut coal mine, a quarry or an open cut metalliferous mine[1]. In addition, participants qualify in at least two types of mining machinery, which may include a loader, skid steer, grader, water cart and off-road haulage units.

The nature of the personal and social challenges faced by the target group is complex, so a focus on addressing individual needs is critical to achieving sustainable outcomes. Each intake for the program is limited to a maximum of 10 to 12 participants, to ensure each participant is afforded the necessary time and attention to address individual needs and challenges.

1. Australian Government, 2015, *RII20209 - Certificate II in Surface Extraction Operations*, available from: https://training.gov.au/Training/Details/RII20209

Training and support

Participants undertake a range practical training in a simulated mine site that was established specifically for the program at Fairbridge Village. This provides participants with a unique experiential learning environment and an introduction to mine site operations. As part of their on-the-job training, participants are also engaged in various civil works projects within Fairbridge Village.

A lifestyle development program is also delivered as part of the program, which assists trainees to manage their physical and financial wellbeing, understand the discipline required to be fit for work, learn how to effectively relate to others and how to balance their work and family responsibilities. A cross-cultural component also educates participants about industry culture, and supports them to reconnect with and respect their Aboriginal culture and heritage.

The program also treats families and social support systems as a key enabler in facilitating sustainable employment and life outcomes. Appropriately skilled and qualified mentors work closely with participants and their families throughout the program and during their employment. During each intake, family days are held to allow participants to engage positively with their families and enable families to share the journey through the program. This enables families to develop an understanding of what to expect from the job and how they can support participants when they are released from custody.

Fairbridge also offer accommodation for participants who are released from custody prior to completion of the program, and during the early stages of their employment. This support is intended to assist participants while they re-establish themselves within the community.

Background (3/3)

Evaluation of the program to date reveals significant outcomes are being achieved

Employment

Following completion of the traineeship and attainment of tickets to operate at least two pieces of mining machinery, participants are required to pass a medical assessment. They are then guaranteed employment within the resources and associated industries.

As the intention of the FBP is to achieve long-term, sustainable employment outcomes for participants, those who are employed will be supported to work towards attainment of Certificate III and further career development opportunities. For example, some former prisoners who have completed the program have since transitioned into other mining-related industries, including apprenticeships for heavy duty machinery.

The Fairbridge Bindjareb Project expansion

Fairbridge has recently completed a preliminary evaluation of program processes and outcomes from the FBP. The findings presented in the evaluation form the basis for a number of assumptions made in this analysis.

The findings of the preliminary evaluation indicate that the FBP has achieved positive outcomes in several key areas, including:

- A high rate of program completion
- Positive numeracy and literacy outcomes
- A high rate of graduate employment
- A reduction in the rate of recidivism of Aboriginal offenders within two years of their release from custody.

Due to the positive outcomes achieved by the FBP, Fairbridge has developed plans to expand delivery of the program. Fairbridge is seeking to secure funding for a further three years, and agree partnership arrangements with other companies in the resources sector and associated industry to facilitate a greater range of employment opportunities for future participants.

Consultation with Fairbridge has confirmed that the expanded program (for which funding is currently being confirmed) will run from January 2016 through to December 2018, and deliver training and support to 9 intakes of trainees over the three-year period (a maximum of 10 trainees per intake may be enrolled).

Fairbridge has also confirmed that although the current budget for the FBP only extends to December 2018, the organisation has plans to continue delivery of the program beyond this period. This will be subject to the agreement of future resource industry partnership arrangements and availability of the required funding.

2. Cost Benefit Analysis

Cost benefit analysis (1/2)

A CBA quantifies the potential net benefits to society from the implementation of a policy or program

Introduction

A CBA has been undertaken to estimate the expected economic benefits arising from expanded delivery of the FBP.

The basis of a CBA is simple: for a given policy or investment proposal, it compares the total forecast costs to the community and economy with the total forecast benefits to consider whether the benefits outweigh the costs, and if so, to what extent. This net difference is expressed in the form of a ratio, called the benefit cost ratio (BCR). A BCR greater than one indicates that net benefits from the option to society are greater than net costs, suggesting value in investing in the option. The reverse is true if the BCR is below one.

In this way, the CBA provides a framework for analysing information in a logical and consistent manner. It assists decision-makers to quickly determine if an investment option is economically effective and efficient in achieving the stated objectives.

A CBA can be used to compare the value of investing in competing projects, optimise the amount spent on a project or to deliver the greatest benefit for a given budget[2]. Four steps have been undertaken to perform this CBA:

1. Development of the base case
2. Cost estimation
3. Benefit specification and estimation
4. Discounted cash flow modelling (DCF)

Each step is outlined in detail below. It should be noted that inflation has not been applied to future revenue or costs.

Step 1 – Development of the base case

The value of benefits estimated in this CBA are derived from the incremental improvements in outcomes that are expected to occur as a result of the delivery of the expanded FBP.

This approach is common in undertaking CBAs, and ensures that only the benefits that can reasonably be attributed to the expanded FBP are included in the analysis. It is therefore important to specify an appropriate base case for the analysis, so it is clear from what base the incremental values have been calculated.

To demonstrate the *full* value from the continued delivery of the FBP, the CBA adopts a 'zero' base case. That is, a scenario where the FBP does not continue. The 'project case' is a scenario in which FBP program continues over the long term. The incremental difference between these two scenarios with regard to costs and benefits form the basis of the CBA.

Step 2 - Cost estimation

The cost associated with achieving the benefits needs to be captured as part of a CBA. In this study, the costs capture all operational and capital costs associated with the delivery of the program. Certain costs may have been incurred in the absence of the program (e.g. the wages of correctional staff who supervise participants) but are nonetheless critical to the delivery of the program. To avoid understating costs, these outlays have nonetheless been captured as an associated program cost.

2. Chisholm, J (2000), Benefit- Cost Analysis and Crime Prevention, Australian Institute of Criminology

Cost benefit analysis (2/2)

All costs and benefits captured are directly related to the outcomes the program is expected to achieve

Step 3 - Benefit specification and estimation

When deciding which benefits to measure, it is important to first consider the objectives of the program being evaluated. The objectives will be associated with target outcomes which will in turn be expected to generate certain benefits. After consultation with Fairbridge six possible transition paths were defined for participants following program completion compared to a 'no FBP' base case.
These paths are split into paths of 'success' and 'failure' as follows (more detail on these paths are presented on page 14):

Paths of success

1. Redirecting those who otherwise would be re-incarcerated into a job within the resources sector and associated industries
2. Redirecting those who are not re-incarcerated – but would be otherwise unemployed - into a job within the resources sector and associated industries
3. Providing those who are not re-incarcerated – but would be otherwise with a low-paying job - with a better-paying job within the resources sector and associated industries

Paths of failure

4. Those who complete the program but they are subsequently re-incarcerated
5. Those who complete the program, and although they are not re-incarcerated, become unemployed
6. Those who commence but do not complete the program (and experience outcomes similar to the broader prison population who do not engage in the FBP at all)

For the paths of failure, the outcomes modelled align to the base case (i.e. the absence of the FBP altogether).

From the three potential paths of success, two benefits have been identified as directly attributable to the FBP based on consultation with Fairbridge and a review of similar criminal rehabilitation programs. These benefits represent the incremental positive change affected by the FBP:

- **Benefit 1:** Increased productivity of Aboriginal ex-offenders
- **Benefit 2:** Reduced recidivism of Aboriginal ex-offenders

Step 4 - Discounted cash flow (DCF) modelling

The values of costs and benefits related to FBP projected to occur into the future are discounted to 2015 dollar terms using a traditional DCF framework. A discount rate of 7% per annum has been adopted in this analysis (although a sensitivity test in section 7 utilises a lower bound discount rate of 4%, and an upper bound discount rate of 10%.) .

It is noted that this lower bound rate of 4% is recognised in the literature as a reasonable discount rate to use when there is an interest in incorporating intergenerational concerns[3].

Once the future values are discounted, the total value of costs and benefits in net present terms (NPV) are compared to derive a BCR.

3. Arrow KJ, et al. (2012) How Should Benefits and Costs Be Discounted in an Intergenerational Context?

3. Benefit Framework

Benefit framework (1/4)

The six potential transition paths for participants define expected benefits

As outlined in section 2, participants of the FBP are assumed to achieve one of the transition paths in the table below. Each participant can only achieve one of the possible paths, however multiple participants can achieve each path. The table below summaries each transition compared to the base assumptions. The following pages describe the rationale for each transition path in more detail.

Table 3.1 – Potential transition paths for participants

		Base case – outcome expected in the absence of FBP		Project case – outcome achieved after enrolment in FBP
PATHS OF SUCCESS	**Transition 1**	In the base case, where the participant does not undertake training in FBP, they are assumed to return to prison within two years of their release. The participant is assumed to receive the mean sentence for an Aboriginal and Torres Strait islander offender (2.6 years)	→ TRANSITION →	As a result of engaging in FBP, participants avoid returning to prison and instead secure employment within the resources sector and associated industries. Employment tenure varies between 1.5 months to 2.6 years, as discussed in section 4.
	Transition 2	The base case assumption is that if the participant doesn't enrol in FBP they would be unemployed after being released from prison.		As a result of FBP, the participant is able to secure employment within the resources sector and associated industries. Employment tenure varies between 1.5 months to 2.6 years, as discussed in section 4.
	Transition 3	Participants who do not enrol in FBP are assumed to be employed once they are released from prison. However, without FBP training they secure jobs with a relatively low salary		FBP training enables participants to gain employment within the resources sector and associated industries where employment tenure varies between 1.5 months- 2.6 years, as discussed in section 4.
PATHS OF FAILURE	**Transition 4**	In the base case, offenders are assumed to return to prison within two years of their release.		Participants do not realise a benefit after graduating from FBP and return to prison within two years of their release.
	Transition 5	The participants become unemployed after their release from prison		Participants do not realise a benefit after graduating from FBP and remain unemployed following their release.
	Transition 6	Various - do not graduate from FBP.		Participants do not realise a benefit as they do not graduate from FBP. In this outcome, participants achieve the same outcome in both the base case and FBP scenario.

Benefit framework (2/4)

The benefit framework includes two benefits that are expected to arise from the FBP

As outlined in section 2, the FBP is expected to deliver two key benefits. The benefits are projected to accrue from the three transition 'paths of success' that the program is expected to achieve. The matrix in Figure 3.1 illustrates the relationship between each transition path and the associated benefits.

FBP participants are assumed to achieve one of the transition paths in Figure 3.1. Each participant can only achieve one of the possible paths, however multiple participants can achieve each path.

The number of participants in each transition group is determined by the outcomes already achieved by FBP in the initial years of operation (the project case) and the outcomes expected to ordinarily occur in the absence of the FBP (the base case). The base case is modelled on population wide outcomes for Aboriginal and Torres Strait Islands following release from prison.

Benefits are only associated with transitions paths 1,2 and 3. In paths 4,5 and 6, FBP participants are assumed to achieve the same outcome they would have in the absence of the program (i.e. the base case).

A more detailed explanation of each benefits follows in the remained of this section.

Figure 3.1: Outcome-benefit matrix

		Benefit 1: Productivity	Benefit 2: Incarceration
Paths of success	**Transition path 1:** Prison-> Fairbridge Employed	✓	✓
	Transition path 2: Unemployed-> Fairbridge Employed	✓	✗
	Transition path 4: Low-paying employment -> Higher-paying Fairbridge Employed	✓	✗
Paths of failure	**Transition path 5:** Prison-> Prison	✗	✗
	Transition path 6: Unemployed-> Unemployed	✗	✗
	Transition path 7: Commence but do not complete FBP	✗	✗

✓ Applicable ✗ Not applicable

Benefit framework (3/4)

Benefit 1: Productivity - employment following completion of the FBP

Description

Benefit 1 – **productivity** - is generated from the employment of Aboriginal ex-offenders who undertake the program and secure employment within the resources sector or associated industries. Compared to a base case where by many ex-offenders re-offend and / or remain unemployed, such an outcome generated by FBP constitutes an incremental productivity benefit to the economy. This productivity benefit is measured by the expected salary of the ex-offender.

Labour productivity is normally measured by output per hour worked. For the purposes of this study, wages and salaries of participants are taken as a proxy for labour productivity in the absence of data concerning the working hours and value of output attributable to participants.

However, this benefit can often entail more than monetary and economic reward. Employment can improve the mental health of individuals and in the case of Aboriginal ex-offenders, employment may allow the individual to model positive behaviour to children and family members, which in turn can create inter-generational benefits[3].

However, these benefits can be difficult to quantify and can be dependent on the circumstances of the particular individual in question. As such, this analysis does not seek to quantify such aspects, but this is discussed qualitatively in section 8.

Rationale

Aboriginal Australians are one of the most disadvantaged groups in the Australian labour market. In 2011, the unemployment rate for Aboriginal Australians was 16 percent, compared with 5 percent for the non-Aboriginal population[4].

The reasons for this variation are multifaceted, however, it is estimated that the difference in arrest rates between Indigenous and non-Indigenous Australians may account for 20 percent of the difference in unemployment rates between the two groups[5].

It is widely recognised that individuals with a criminal history in particular are likely to experience broad and complex challenges that hinder positive employment outcomes upon their release from custody[6].

In addition, research indicates that unemployed ex-offenders, or those without stable or consistent employment, are more likely to re-offend than ex-offenders that succeed in gaining secure employment[7]. Therefore, employment is regarded as a critical element in breaking the cycle of recidivism.

This underscores the importance and value in providing Aboriginal ex-offenders with support to gain employment and underpins why the productivity benefit is an important outcome of the FBP.

3. Goodwin, V, Davis, B, 2011, Crime families: Gender and intergenerational transfer of criminal tendencies, Australian Institute of Criminology.

4. ABS Cat. 6287.0 Table 6

5. Graffam, J and Shinkfield, A (2012). *Strategies to enhance employment of Indigenous ex-offenders after release from correctional institutions*. Closing the Gap Clearinghouse, Australian Government

6. Ibid.

7. Payne, J (2007), *Recidivism in Australia: findings and future research*, Australian Institute of Criminology, Australian Government

Benefit framework (4/4)

Benefit 2: Reducing recidivism reduces costs related to operating the State justice system

Description

Benefit 3 – **incarceration** – refers to reduced recidivism. Recidivism refers to the tendency for ex-offenders to return to prison under sentence within a short time of their initial release.

Following successful completion of the FBP, the program has been found to reduce the rate of recidivism among Aboriginal ex-offenders. The overall reduction in the number of offenders returning to prison avoids the often significant costs associated with keeping offenders in custody. This represents a financial saving for the WA Government.

Rationale

The term 'recidivism' is often used in criminal justice literature to refer to repetitious criminal activity [8]; similar terms include 'repeat offending' and 'reoffending'. The concept of recidivism usually relates to the return of an offender to prison under sentence within a defined time period of their release, after previously serving a sentence for a prior conviction.

The National Corrections Advisory Group identifies several measures of recidivism, including rates of return for prisoners in corrective services (either in custody or under community correction orders) who return to corrective services under sentence within two years of their release or discharge [9].

The rate of recidivism is particularly high for Indigenous ex-offenders (55 per cent) compared to non-Indigenous ex-offenders (31 per cent)[10].

This imposes a significant direct cost on the State, stemming from the costs associated with holding recidivist offenders in custody.

A primary objective of FBP is to break the cycle of recidivism. In instances where completion of the FBP is successful in preventing participants from re-offending, the analysis captures the benefit of the avoided cost of incarcerating this cohort.

The benefit framework treats avoided incarcerations costs as a benefit rather than 'negative cost' - an approach that is consistent with best practice cost-benefit analysis methodlogy[11].

8. Payne, J (2007), *Recidivism in Australia: findings and future research*, Australian Institute of Criminology, Australian Government
9. Department of Corrective Services, *Recidivism trends in Western Australia with comparisons to national trends*, Government of Western Australia
10. Willis, 2008, Reintegration of Indigenous prisoners: key findings, Australian Institute of Criminology
11. Business Council of Australia (2012), Cost-Benefit Analysis, Policy Essentials.

4. Cost analysis

Cost analysis (1/2)

All costs incurred historically in delivering the program have been included in the analysis

There are two approaches to expressing costs when undertaking a CBA:

- **Ex-ante analysis**: all costs including establishment costs, fixed and variable costs are captured in this approach. This approach is generally suited to new programs or policies that have not yet commenced or been implemented.
- **Ex post analysis**: this approach only captures the future costs that are projected to be incurred. This is appropriate for programs that are already established and therefore excludes development costs already incurred.

Establishment costs for the FBP program have already been incurred given the program has been running for several years. Further, other costs such as prison staff, would have to be incurred even if the program wasn't offered. For example, prisoners are accompanied by a prison guard during training sessions at Fairbridge. These guards are regular correctional staff that would otherwise be on duty during this time providing custodial services to the inmates.

However, for completeness and conservatism, these establishment and other costs have been captured in the CBA (ex-ante approach).

By doing so, the analysis ensures that full cost of the program is not understated. An ex-post assumption has been considered in the sensitivity tests which returns a BCR utilising only the projected future variable costs that are estimated to be incurred (excluding establishment costs).

Cost analysis (2/2)

The recorded cost to deliver the FBP is the basis for estimating the future cost of the program

The FBP provided Deloitte Access Economics with a detailed breakdown of historic operating costs. FBP advise that the costing data was exhaustive and included all those associated with the FBP operations. An example of the costs included are program evaluation, financial audits, venue hire, uniform and stationary procurement and relevant course certification. A sensitivity test has been conducted which returns a BCR using a per participant costs that is 50% higher than that assumed in the baseline analysis.

The cost breakdown was provided at a detailed level such that the cost to deliver the program to each participant could be identified.

These costs are detailed in Table 4.1, and show that the cost per participant is $53,556 (in 2015 dollar terms). The analysis assumes that this cost is incurred during each of the three in-takes per year, and that 10 participants will be included in each in-take (i.e. 30 participants per year).

In addition, the establishment capital costs that are necessary to run the program have also been estimated. These are presented in Table 4.2. Total establishment capital costs sum to $1,686,300. For the purposes of the DCF analysis, it has been assumed these costs are incurred at the start of the assessment period.

Table 4.1: Cost per participant

	Cost per participant
Staff- related costs	$28,506
Materials	$5,828
Overheads	$12,313
Certifications	$6,919
Total cost per participant	**$53,556**

Table 4.2: One-off capital costs

	One-off capital costs
Grader	$225,000
Loader	$383,000
Articulated truck	$600,000
Water truck	$300,000
Forklift	$100,000
Other costs	$78,300
Total one-off costs	**$1,686,300**

5. Key assumptions

Program assumptions (1/5)

A sample of FBP participants has been chosen as the basis to estimate the expected outcomes of future participants

Sub-sample selected

One of the challenges with assessing programs like FBP is the dynamic nature of the outcomes. Participants are continually joining the program and those that have graduated do not necessarily experience binary outcomes. For example, a FBP graduate may remain employed for 12 months and then become unemployed, or re-offend. The manner in which the outcome experienced by this individual is interpreted for studies such as this will depend on the point in time in which the data is collected.

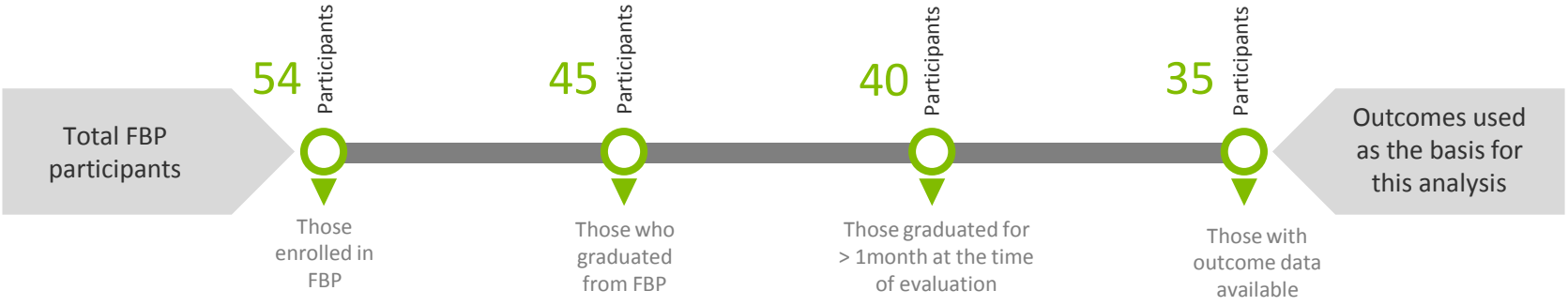
As presented in Figure 5.1, Deloitte Access Economics have relied on the observed outcomes of a sub-sample of past FBP participants to formulate assumptions on future outcomes for this analysis.

In total, 54 participants have enrolled in FBP since 2011. However, only 45 participants have graduated from the program. This rate of completion is applied in the analysis as the assumed future average 'graduation rate' for those that begin the program (83%).

Other key assumptions are based on a group of 35 previous participants. This is because, at the time of the evaluation undertaken by FBP, 5 of the 45 participants had been released from prison for less than a 1 month. Given that it takes 1 month to place the participant in employment, it is not appropriate to include individuals released for under a month in the analysis. Of this group, outcome data was unavailable for a further 5 participants. Therefore, from the cohort of 45 graduating participants, outcome data was only used for 35 participants.

The outcomes recorded for this group of 35 participants is used to model the potential outcomes for future FBP participants. These outcomes are discussed on the next page.

Figure 5.1: Selection process for sub-sample



Program assumptions (2/5)

The analysis is based on the historic outcomes achieved by the program

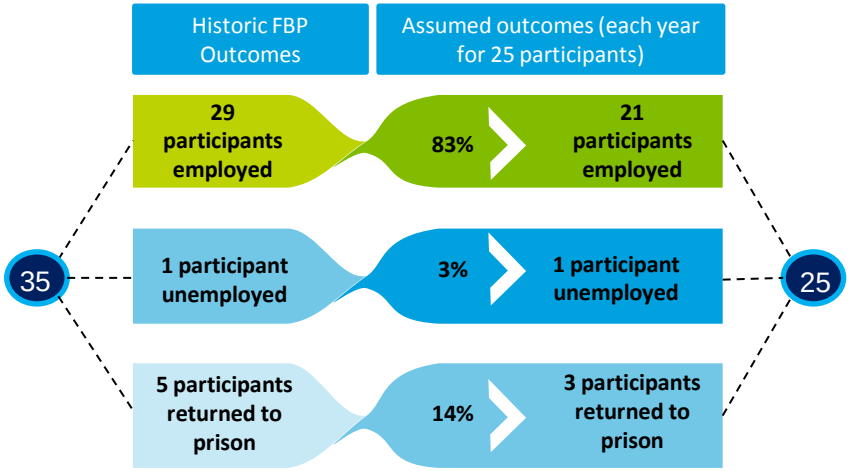
Observed outcomes

As discussed, at the time of the evaluation, only 35 graduates were deemed appropriate to include as the basis to develop assumptions regarding future program outcomes. The outcomes of this cohort were:

- 29 employed - *26 with Bis Industries and 3 elsewhere* (83%)
- 1 unemployed (3%)
- 5 returned to prison (14%)*

Figure 5.2 summarises how these observed outcomes have informed the assumption for future outcomes.

Figure 5.2: Historic outcomes are the basis for assumed future outcomes



Study assumptions

Starting from 2016, Fairbridge has indicated that the FBP will include three intakes each year, with 10 participants in each program. As with the observed outcomes, the analysis assumes that of the 30 participants that enrol in the program each year, 25 (83%) will successfully graduate. From this group, the following outcomes are expected to be achieved (based on the observed outcomes):

- 21 employed (83%)
- 1 unemployed (3%)
- 3 return to prison within two years (14%)

These outcomes are compared with the base case outcomes that are assumed to occur in the absence of FBP. The base case scenario is detailed on the following page.

*The study records no benefits against those participants who return to prison after graduating FBP (i.e. 14%). In reality, it is known that most re-offenders who complete the FBP return to prison for parole violations as opposed to serious crimes entailing long sentences. However, with limited data on the duration of sentences for re-offenders, the simplifying assumption of zero benefits for re-offenders has been made. This assumption has the effect of potentially overstating the recidivism benefit, and understating the productivity benefit (where, after violating parole and serving the remainder of their sentence the participant recommences work within the 2.6 year timeframe).

Program assumptions (3/5)

In the absence of FBP, ex-offenders are assumed to achieve outcomes consistent with the broader prison population

Base case development

A comparison base case is developed to measure the incremental improvement in outcomes achieved by FBP. Participants need to achieve a minimum security rating and apply in order to participate in the program. However, FBP state that the participants represent a typical cross section of the Aboriginal prison population, with a number having served lengthy sentences. As such, the base case has been modelled on the average outcomes experienced by Aboriginal and Torres Strait Islander (TSI) ex-offenders. As only 25 of the assumed 30 participants graduate from FBP each year, no benefit is assumed to accrue to the five participants that do not graduate (that is, they are assumed to achieve the same outcomes they would otherwise if FBP was not made available to them). As such the base case is developed from the 25 participants that do graduate.

Recidivism

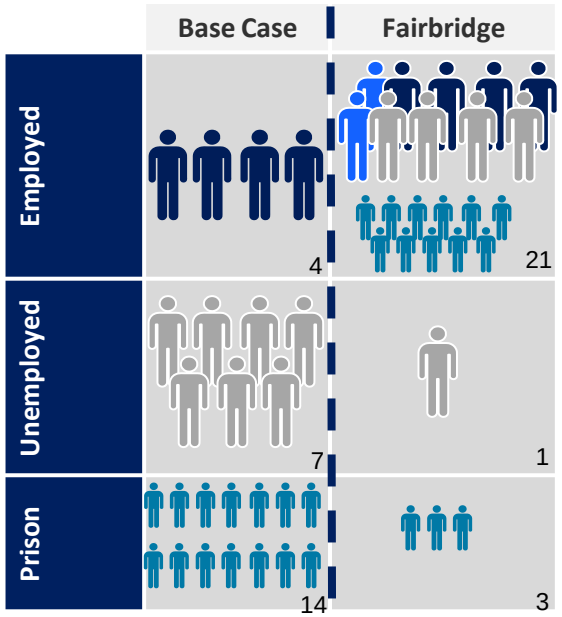
At the time of this analysis, recidivism rates were unavailable for Aboriginal and TSI offenders in WA. An Australian study[12] revealed recidivism rates for Aboriginal and TSI male offenders was 55 per cent. This has been applied to the base case cohort, meaning that of 25 offenders, 14 will reoffend.

Unemployment

Unemployment for Aboriginal Australians who have been arrested within the preceding five years is 29 per cent[13]. However, the unemployment rate only captures those looking for work. In contrast, in 2011, some 39 per cent[14] of Aboriginal and TSI men aged between 15-64 were not in the labour force, meaning they were not actively seeking employment. Therefore, this cohort can also be assumed to not be employed.

The analysis uses these benchmarks to 'back out' employment among Aboriginal and TSI ex-offenders. It is assumed that the residual between those unemployed and those not in the labour force (32 per cent) is equal to employment. Accordingly, of the 11 offenders that do not return to prison under the base case scenario, it is assumed four gain employment and seven are unemployed.

Figure 5.3: Outcomes comparison



12. Willis, 2008, Reintegration of Indigenous prisoners: key findings, Australian Institute of Criminology
13. ABS, 2013, 4102.0- Australian Social Trends, Nov 2013, Australian Bureau of Statistics. This data relates to arrests only not incarceration. It is likely that those incarcerated experience even higher rates of joblessness
14. Ibid.

Program assumptions (4/5)

The sustainability of outcomes achieved historically presents an opportunity for improvement

Employment tenure

A previously noted, the outcomes achieved by the participants are dynamic. For example, a participant who graduates from FBP and gains employment may later re-offend, at which time the long term benefits associated with the program may be reasonably expected to cease.

For this reason, the analysis utilises relatively conservative assumptions regarding possible employment tenure of participants and related productivity (the value of the productivity benefit associated with employment is significant relative to the other two benefits measured).

The evaluation previously undertaken on FBP by Fairbridge recorded the length of time that participants retained employment with Bis Industries following program completion. These findings, as presented in Table 5.1, are used to develop assumptions regarding the employment tenure of participants in future FBP cohorts.

Consultations with FBP indicate that the majority of participant who leave Bis Industries do so to move into similar positions elsewhere.

However, there is insufficient data to validate these outcomes, giving a further reason to adopt a conservative view on employment tenure (the impact of changing the assumption on employment tenure is also subject to sensitivity testing – see page 31).

In assessing the sustainability of employment, the initial FBP evaluation further refined the 'employed' sub-sample according to those that had graduated over 6 months ago *and* were employed by Bis Industries. This reduced the assessable cohort from 29 to 21.

This cohort of 21 participants is presented in Table 5.1 according to tenure. Seven participants retained employment for between 0-3 months. The analysis assumes that of this cohort, the average employment tenure with Bis Industries is 1.5 months (being the mid-point between 0-3 months). The same approach has been made for participants employed for between 4-6 months (a 5 month tenure is assumed).

Those that are 'still employed' are assumed to remain employed for 2.6 years (2 years, 8 months). This is the average tenure for an employee aged 25-35 years (the median age of historic FBP participants) in Australia.

While the figure of 2.6 years refers to employment 'churn', it is deemed reasonable to adopt as a benchmark in the absence of more suitable data. This is because the benchmark on churn refers to voluntary movements out of a job. Most movements out of employment with Bis Industries by participants tends to be voluntary.

Across all three sub-categories of employment tenure shown in Table 5.1, once participants cease employment, they are assumed to achieve population-wide outcomes for former offenders. Therefore, any benefits associated with the program no longer accrue. This is likely to understate the true benefits of the FBP, however without data on subsequent outcomes a conservative approach is warranted.

Table 5.1: Historic employment tenure

Time in employment	Participants
0-3 months	7 (33%)
4-6 months	4 (19%)
Still employed	10 (48%)
Total	21 (100%)

Program assumptions (5/5)

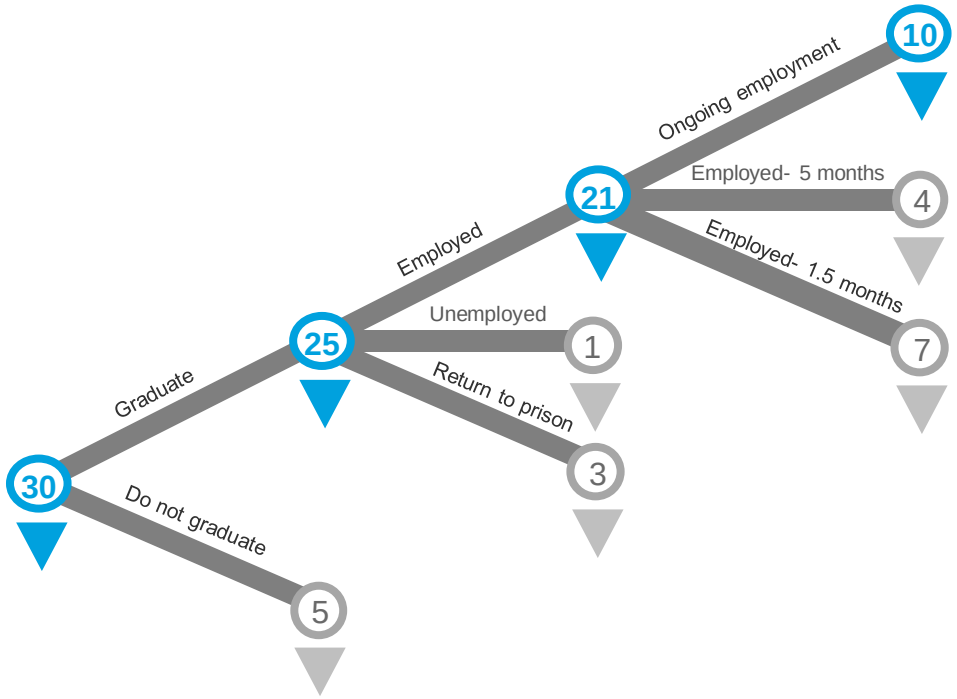
Summary of assumptions

Assumed outcomes

Figure 5.4 presents the assumed outcomes that will be achieved by FBP participants in the future. The numbers shown are based on the observed outcomes and represent an annual cohort (the three groups of 10 participants each, per annum).

As previously noted, based on observed outcomes to date, only 25 of the 30 participants each year are expected to graduate.

Figure 5.4: Assumed outcomes for FBP participants



From the 25 that graduate, 21 are assumed to gain employment while one is expected to become unemployed. A further three are assumed to return to prison within two years.

From the remaining 21 that remain employed, seven are expected to stay employed within the resources sector for 1.5 months, four are projected to stay for 5 months, and 10 are expected to serve the average tenure for an Australia worker aged between 25-35 of 2.6 years.

These outcomes are compared to the base case that are assumed to occur in the absence of the FBP (see page 24).

The CBA has been conducted over a 10 year period, from 2016-2025. Over this time, 300 participants are assumed to enrol in FBP.

Importantly, a number of assumptions used in this study are based on the outcomes achieved from the first five FBP intakes. The first three of these intakes were run on a pilot program basis. At the time of undertaking this study, the 11th intake of participants had been accepted by FBP. While more recent data is not currently available, preliminary guidance provided by FBP indicate that rates of completion and participant outcomes have improved since the initial evaluation (i.e. from the 6th intakes onwards) .

Given this perceived improvement, it is possible the benefits associated with the program would be greater if data from more recent intakes were included in this study. As such, the benefits presented in this study may be considered conservative.

6. Benefit Cost Ratio

Benefit cost ratio (1/3)

The results of the cost benefit analysis indicates that the program represents value for money

As discussed in Section 2, a BCR indicates the difference in the projected net present value (NPV) of benefits and costs that are expected to arise from the program.

For example, a BCR of 2.0 indicates that for every $1.00 spent on the program (cost), $2.00 worth of benefits should be generated.

Based on the assumptions detailed in this report, the Fairbridge Bindjareb Project has a BCR of **2.49.**

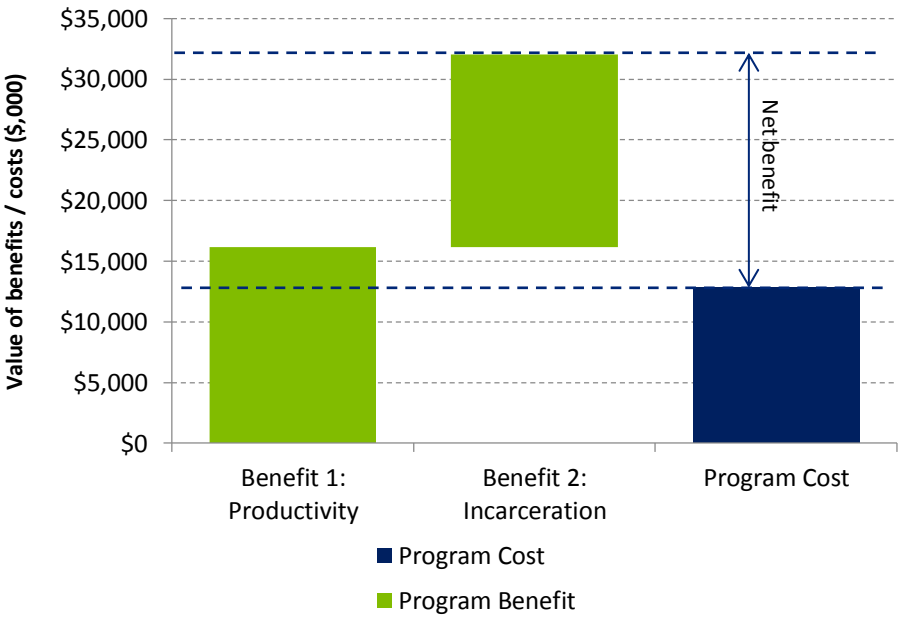
Figure 6.1 shows the relative value of each of the benefits measured (greater productivity and reduced rates of incarceration) against the program cost.

The expected increase in productivity drives slightly more than half of the overall benefit (50.5 per cent)[15]. The benefit from avoiding the cost of incarceration is slightly less (49.5 per cent of the overall benefit).

Another way to view benefits in this case is to consider which transitions drive the overall benefits. As mentioned, only three of the potential six transitions deliver benefits (i.e. the 'paths of success'). Graph 6.2 (page 29) presents the value of each transition in delivering benefits.

The greatest benefit comes from Transition 1; diverting individuals from prison to employment within the resources sector and associated industries (77 per cent). Transition 2 (19 per cent) occurs when participants go from being unemployed to being employed within the resources sector and associated industries.

Figure 6.1: FBP estimated benefits and costs (NPV)



15. Note that the productivity benefit is calculated as the gross income earnt by participants. A portion of this will ultimately be distributed to the Federal Government in the form of income tax. The value of benefits has been considered according to who they accrue to in Figure 6.3 (page 29).

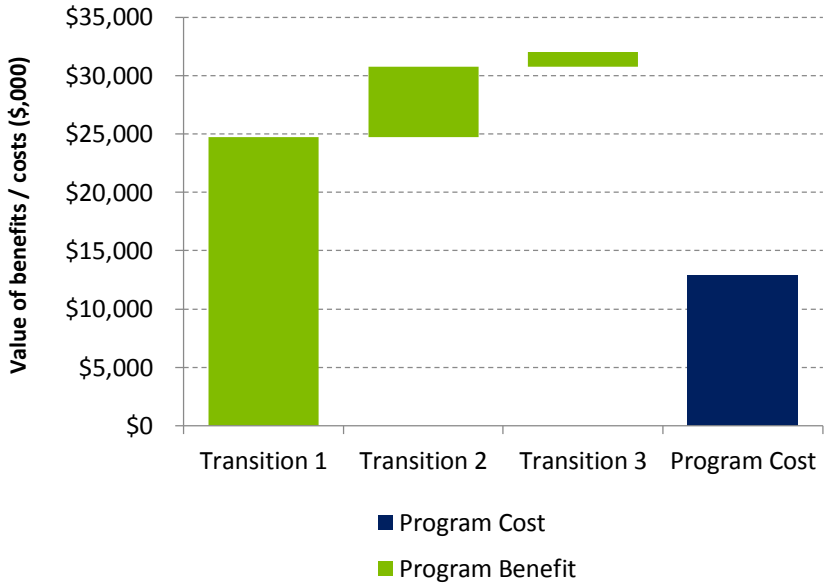
Benefit cost ratio (2/3)

Transition path 1 delivers the greatest benefit associated with FBP

Finally, Transition 3, which contributes four per cent of the overall benefit arises when, in the base case, participants are assumed to be employed with the average salary, and as a result of FBP achieve a better salary.

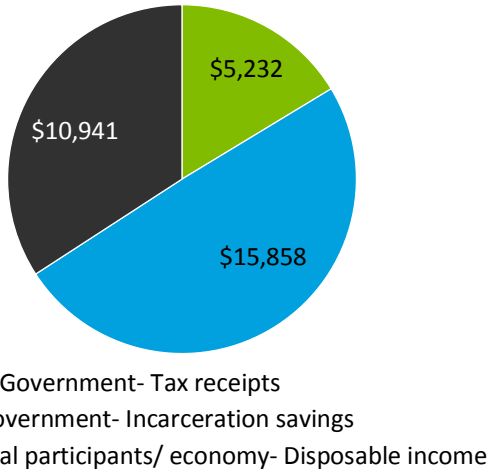
A third way to consider the benefits is according to the stakeholder group it accrues to. The Federal Government receives 16 per cent of the benefit in this analysis from tax receipts[16] through income tax. The WA State Government receives a further 50 per cent of the benefit from avoided incarceration costs.

Figure 6.2: Estimated benefits (by transition path) and cost (NPV)



The additional disposable income that is earned by those employed accrues to the individuals and the economy and accounts for 34 per cent of the benefit.

Figure 6.3: Estimated FBP benefits split by stakeholder, $000s (NPV)



Lastly, the Federal Government also theoretically realises a saving from avoiding the cost of welfare payments when ex-offenders gain employment. This has not been treated as a benefit in the analysis as it represents a transfer between the Federal Government and welfare recipients. However, as an indicative exercise, over the 10-year period of analysis, it is estimated that the welfare saving attributable to FBP is around **$460,000.**

16. Note that tax revenue has been estimated according to 2015-15 income tax brackets and includes the Medicare levy and Medicare levy surcharge where applicable. The estimate is based on the projected income and incrementally higher income assumed to be earnt by FBP participants

Benefit cost ratio (3/3)

In summary…around 34% of the participants are expected to achieve Transition 1: gaining employment via the FBP and staying out of prison

300 FBP participants are expected in 10 years, with transitions projected as follows:

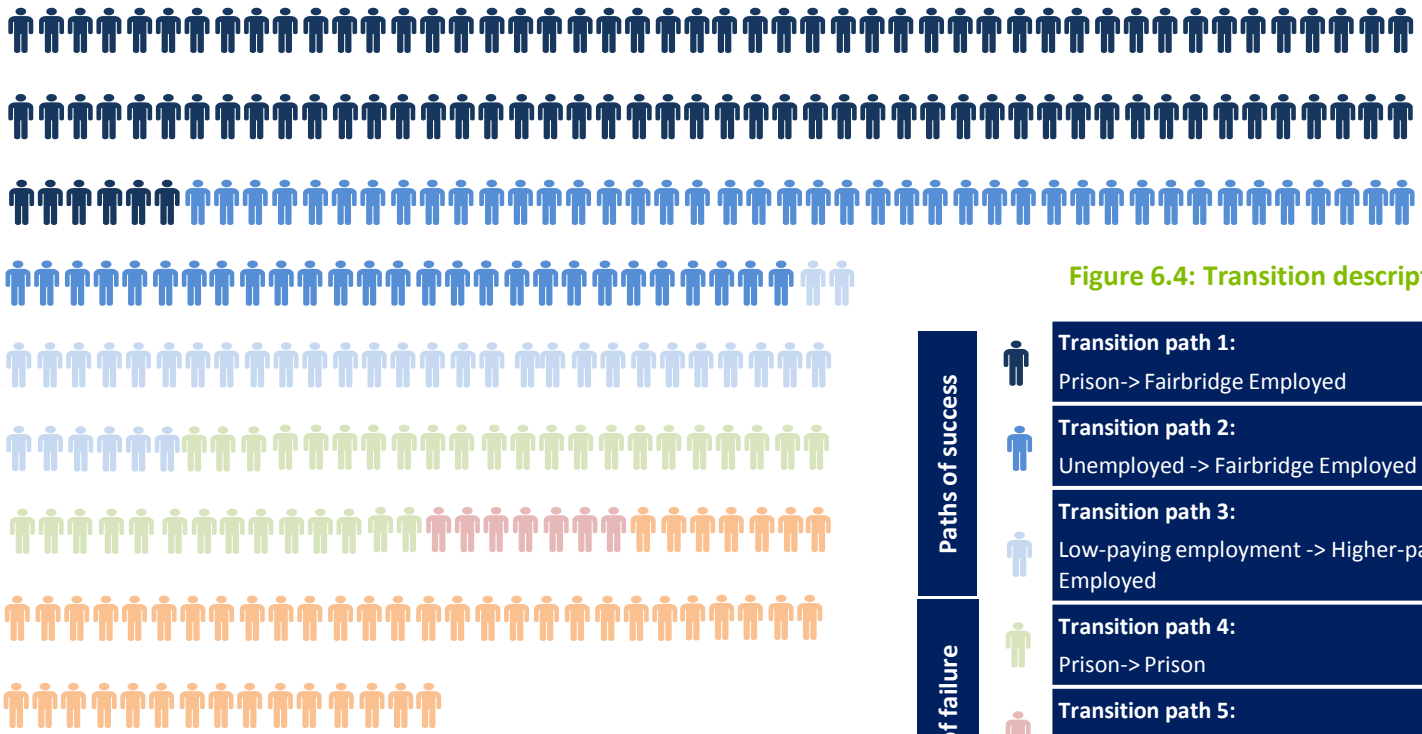


Figure 6.4: Transition descriptions

Paths of success	**Transition path 1:** Prison-> Fairbridge Employed
	Transition path 2: Unemployed -> Fairbridge Employed
	Transition path 3: Low-paying employment -> Higher-paying Fairbridge Employed
Paths of failure	**Transition path 4:** Prison-> Prison
	Transition path 5: Unemployed-> Unemployed
	Transition path 6: Commence but do not complete FBP

Note: Each icon represents a participant

These potential future outcomes are estimated from the observed outcomes achieved during the first five intakes of FBP participants. FBP advise that the delivery of the program has been improved and is now more effective. As such, a study based on contemporary data may reveal that more participants fall into the 'Success' categories being transitions 1 to 3.

7. Sensitivity analysis

Sensitivity analysis (1/3)

The sensitivity analysis illustrates how changing key assumptions in the analysis impacts upon the BCR

A series of sensitivity tests are undertaken to given appreciation of the sensitivity of the outcomes to changes in certain key assumptions and variables. In total, six sensitivity tests are undertaken:

1. Varying the employment tenure
2. Varying the discount rate
3. Lower base case recidivism rate
4. An ex-post CBA (i.e. excluding establishment costs)
5. Fewer successful FBP outcomes
6. Increasing the per participant cost by 50%

These tests and the related outcomes to the BCR are described in detail below. In particular, it is evident that few of the tests result in a BCR below 1.00.

Sensitivity test 1

Varying the employment tenure

One of the primary assumptions made in this analysis is the employment tenure of those that do not cease employment in the first 6 months (as reflected in the evaluation, this applies to 48% of participants). As it is not clear what the outcomes of this cohort are, the analysis makes a conservative assumption in that this cohort retain their position for 2 years and 8 months (average employment tenure in a single positions) after which point all benefits of employment cease to accrue.

This is particularly conservative, given that many participants, after gaining skills through the training program will move on to other positions. Table 7.1 below presents the impact of varying the employment tenure for this cohort.

Table 7.1: Employment tenure

Base case cohort size	BCR
1 year	1.92
2 years, 8 months (baseline)	**2.49**
3 years	2.59
6 years	3.19
8 years	3.38

Sensitivity test 2

Varying the discount rate

The discount rate used in the CBA is 7 per cent, which is consistent with typical CBA work carried out for State and Commonwealth Governments.

The discount rate is the factor by which future costs and benefits are adjusted to derive their net present value. The discount rate is used to adjust for the time value of money, as well as the uncertainty of future cash flows.

The higher the discount rate, the more aggressively future cash flows are discounted. Adopting a lower discount rate of 4 per cent returns a BCR of **2.60**, while a higher discount rate of 10 per cent returns a BCR of **2.38**.

Sensitivity analysis (2/3)

The sensitivity analysis illustrates how changing key assumptions in the analysis impacts upon the BCR

Sensitivity test 3

Lower base case recidivism rate

FBP participants volunteer to undertake the training and must also achieve a minimum security rating. These characteristics may make FBP participants less likely to reoffend than the broader ex-offender cohort. Once graduating from FBP, the recidivism rate of participants is 14 per cent.

However, the recidivism rate used in the base case is a population average rate of recidivism for Aboriginal offenders in Australia. Table 7.2 presents the impact on the BCR of assuming a lower recidivism rate in the base case scenario.

Table 7.2: Base case recidivism rate

Base case recidivism rate	BCR
55% (baseline)	**2.49**
45%	2.16
35%	1.82
25%	1.49
15%	1.15

Sensitivity test 4

An ex-post CBA

In this sensitivity test, all establishment costs already incurred are excluded from the analysis. Therefore, only future costs which are variable in nature are considered.

Fixed capital costs, such as graders and dozers are excluded as these have already been purchased by FBP. This is referred to as an ex-post CBA, where the program is already active and the establishment costs have been covered. Undertaking an ex-post CBA delivers a BCR of **2.84**.

Sensitivity analysis (3/3)

The sensitivity analysis illustrates how changing key assumptions in the analysis impacts upon the BCR

Sensitivity test 5

Fewer successful FBP outcomes

Participants graduating from FBP achieve more positive outcomes compared to their counterparts in the broader population.

A central assumption of the analysis is that FBP continues to produce similar results for future participants. However, if FBP are unable to achieve results in line with those produced historically, the program will represent a lower return on funds invested.

Table 7.3 displays the impact on the BCR as the recidivism rate increases and the employment rate deteriorates. Once the number of graduates who find work equal the number who return to prison, the BCR falls below 1.00 and FBP no longer represents value for money. This test reveals the importance of sustaining (and indeed improving upon) the historic outcomes achieved by the program. Note that the number of participants that remain unemployed has been held constant in each test.

Sensitivity test 6

Increasing the per participant cost by 50%

FBP have provided the costing data used in this analysis. There is a risk that these cost may rise in the future. In this test the impact of increasing the FBP participant cost by 50 per cent is conducted. The baseline analysis assumes the per participant cost is $53,566. If a 50% increase is applied to this cost ($80,349) the BCR reduces to **1.73.**

Table 7.3: FBP graduate outcome (and % of total graduate cohort)

Recidivism rate	Employment rate	Unemployment rate	BCR
0 (0%)	24 (96%)	1 (4%)	3.15
2 (8%)	22 (88%)	1 (4%)	2.77
3.6 (14%)	**20.7 (83%)**	**0.7 (3%)**	**2.49 (baseline)**
4 (16%)	20 (80%)	1 (4%)	2.39
6 (24%)	18 (72%)	1 (4%)	2.01
8 (32%)	16 (64%)	1 (4%)	1.63
10 (40%)	14 (56%)	1 (4%)	1.26
12 (48%)	12 (48%)	1 (4%)	0.88
14 (56%)	10 (40%)	1 (4%)	0.50

8. Qualitative analysis

Qualitative benefits (1 / 3)

There are a number of *qualitative* benefits that arise from FBP that are unable to be quantified in the CBA

This section identifies benefits for which it is difficult to attribute an economic value. Although these benefits are difficult to quantify, the outcomes potentially delivered via FBP can still be significant and therefore merit consideration.

Breaking the cycle of intergenerational offending

Research has established that criminal behaviour can be transmitted through generations. It has been found that children and grandchildren of a parent with a criminal history is more likely to engage in criminality. The link between intergenerational criminality is strongest between a son and a Father. However, there is also an association of criminality between daughters and fathers[17].

Just as positive role modelling can set a child on a successful life path, poor role modelling can create challenges for children. A child who sees their father engage in criminal behaviour may come to normalise, accept and even respect this behaviour.

Research has also shown that the more serious and extensive the parent's criminal history, the greater the likelihood for their offspring to subsequently commit offenses[18].

As such, preventing the reoccurrence of criminal behaviour may have far greater implications for the future than for that of the offender alone. There are many factors that influences criminality which makes isolating the impact of single factors exceedingly difficult.

However, where interventions like FBP are able to break the cycle of reoffending, the children of participants may benefit from a reduced risk of criminality themselves.

Institutional costs of disadvantaged groups

Recidivism is a highly complicated topic being intertwined with numerous other social problems.

This analysis has selected a number of benefits based on available data that may arise from breaking the cycle of reoffending. However individuals who have been through the criminal justice system are often also challenged in other areas of their life. A case study presented by the University of New South Wales in *Lifecourse institutional costs of homelessness for vulnerable groups*[19] provides an insight into the institutional cost and distress borne by people from disadvantaged groups:

> *"Roy is an Indigenous male born in 1980. He has a borderline intellectual disability, with reported IQ of 71 and has been diagnosed with a personality disorder. He has a long history of problematic drug use, including cocaine, marijuana, amphetamines and heroin, and it is this that frames the majority of his interactions with the police, corrective services and the health system. Roy's first contact with police occurred when he was 13 after he stole from a retail store….*

17. Goodwin, V, Davis, B, 2011, Crime families: Gender and intergenerational transfer of criminal tendencies, Australian Institute of Criminology.
18. Ibid.
19. Baldry, E, et al, 2012, *Lifecourse institutional costs of homelessness for vulnerable groups*, University of New South Wales

Qualitative benefits (2 / 3)

There are a number of *qualitative* benefits that arise from FBP that are unable to be quantified in the CBA

Institutional costs of disadvantaged groups (continued…)

…Two months later, he was reported as a missing person and was located five weeks later when police detained him for stealing.

*By the age of 32, Roy had 209 incidents with police, been held in custody 46 times, received 47 charges, spent 1,468 day in correctional services custody and spent 105 days in hospital related to 16 admissions. The cost of this was estimated to be **$1.96 million**."*

It is clear from this case study that Roy's challenges were not limited to the justice system. Trying to address Roy's physical health issues could not be done without consideration of his criminal behaviour, which was also not isolated from his mental health issues.

FBP aims to provide a holistic solution for participants that provides an opportunity to address challenges in their past and a new chance to lead a successful life (see next section).

The analysis in this report has focussed on the quantifiable benefits that could be gauged from the previous FBP evaluation. However, there may be significant related social benefits that arise as a result of FBP. These have not been considered in this analysis due to a lack of data, but it may be the focus of future analysis once more information is collected.

Limitations of cost benefit analyses for programs with substantial social benefits

Although the key objective of this CBA is to estimate the value of the expected economic benefits that would arise from the expanded delivery of the FBP, it is important to note that there are limitations on the extent to which this is possible.

This is because in addition to assisting Aboriginal ex-offenders to remain out of prison and transitioning them into paid employment, the FBP delivers a range of services as part of the program which primarily result in outcomes and benefits linked to deeper, more complex and pervasive social problems.

For example, participants are supported by mentors to reconnect with their Aboriginal culture and identity and to learn essential life skills.

Due to the nature of these benefits, estimates of their value are usually very difficult to generate. However, it is typical for many vital public services and infrastructure to fail to generate a commercial return. Nonetheless, this is often considered acceptable due to the social good that is created.

Since the FBP also delivers a range of outcomes and benefits considered social in nature, an attempt to value the benefits delivered from the program through the application of a CBA framework will invariably fail to capture the *full* value of the program.

While the analysis does support the financial value of FBP, this value is nonetheless likely to be understated due to the social nature of these associated benefits.

Qualitative benefits (3 / 3)

There are a number of *qualitative* benefits that arise from FBP that are unable to be quantified in the CBA

Alignment with National objectives for the Aboriginal population

As is clear from this analysis, FBP generates a meaningful change in the lives of many of the participants who complete the program. Improving the welfare of Indigenous Australians is the mandate of numerous government policies, including *Close the Gap* and *Reconciliation Action Plan*. The objective of these policies is to reduce the disparity in equity between Indigenous Australians and non-Indigenous counterparts.

Deloitte Access Economics have estimated that this disparity will cost the Australian Government $4.7 billion between 2013 and 2031 in social security, health, community safety and housing. Additionally, Government revenues through income tax receipts are projected to be $7.2 billion less over this time due to inequality in Indigenous employment outcomes[20].

Importantly, FBP are achieving significant benefits and the program represents value for money. Many programs similar to FBP aim to deliver outcomes that cannot be quantified and/ or are difficult to measure. As discussed in this chapter there are numerous other qualitative benefits that are likely being achieved by FBP. These qualitative outcomes may in their own right justify funding for the FBP, even if the economic costs outweighed the benefits.

Indeed, some public services often fail to generate commercial returns. However this is often accepted given the social good that is created (e.g. public transport).

Given this assessment considers purely economic metrics and delivers a positive result for FBP, inclusion of some of these other non-quantifiable benefits demonstrates the value generated by the FBP.

20. Deloitte Access Economics, 2014, Economic benefits of closing the gap in Indigenous employment outcomes

9. Summary

Summary

Some final remarks on the analysis…

Areas of focus for future reviews

Sample size: Where data has been available, assumptions in this review have been based on an evaluation of the first five intakes of the program, comprising of 54 participants. As such, some the results may be exposed to sampling error, where the rates of observed outcomes differ from those that would be achieved from the whole population. It is recommended that subsequent evaluations be undertaken to monitor outcomes from future participants.

Selection bias: As noted, participants must apply to participate in the project and achieve a minimum security rating. These characteristics may mean the participants are more likely to achieve favourable outcomes compared to their counterparts. Fairbridge have reported that a number of their participants have spent decades in prison and so face challenges typical to Aboriginal ex-offenders. Nonetheless, given that participants need to apply to participate in the program suggests they are also willing to reform their life and avoid returning to prison. This may make them more likely to achieve favourable outcomes than their counterparts who do not apply for the program.

Deloitte Access Economics suggests future evaluations be carried out with an attempt to control for the above potential confounders.

Use of this report and findings

This report has been prepared on behalf of Fairbridge WA. This report represents an economic assessment of the outcomes projected to be achieved by the FBP.

As stated, the analysis has opted to utilise conservative assumptions where historic data has been unavailable. Additionally, the objectives of FBP mean that a number of qualitative benefits that cannot readily be monetised will be generated.

Given the above, the analysis has likely understated the value of the program. In any case, the assessments finds that the program **represents value for money**, capturing the productive value and incarceration savings generated.

The objectives of FBP align with Federal and State Government programs that aim to:

- To improve the lives of Aboriginal Australians through access to training and education.
- To address barriers to Aboriginal ex-offenders success through provision of life skills training tailored to individual needs, and access to wrap around support.
- To bring about positive sustainable change in the lives of Aborginal ex-offenders, their families and their communities through improved economic and social circumstances.

FBP is able to operate according to the above objectives and do so in a way that generates a net economic benefit for society.

Appendix A

Technical appendix

Technical Appendix- Assumptions (1/3)

#	Description of assumption	Assumption	Source	Relevance
1	Value of unemployment benefits, per annum. Includes the Newstart Allowance of $501.00 *plus* rental assistance of $124.00 per fortnight	$16,250 per annum	National Commission of Audit, available from: http://www.ncoa.gov.au/report/appendix-vol-1/9-11-unemployment-benefits-minimum-wage.html	Determines the annual saving to the Federal Government by avoiding unemployment and associated welfare payments.
2	Average weekly earnings, based on $1,136.90 a week	$59,119 per annum	Australian Bureau of Statistics, available from: http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/6302.0Main+Features1May%202015?OpenDocument	Determines the incremental benefit from training a FBP participant with the relevant skills so that they may be employed within the resources sector. The difference between this average salary and the salary earnt by employees of Bis Industries equals the incremental benefit of the program for participants who achieve outcome 3.
3	Indigenous recidivism rate- base case	55.0 %	Australian Institute of Criminology, available from: http://www.aic.gov.au/media_library/publications/rpp/90/rpp090.pdf	Determines the rate at which Aboriginal men re-offend within 2 years in the base case.
4	Indigenous unemployment rate for those who have been incarcerated in the prior five years	29%	Australian Institute of Criminology, available from: http://www.aic.gov.au/media_library/publications/rpp/90/rpp090.pdf	Determines the rate at which Aboriginal ex-offenders are assumed to become unemployed once leaving prison in the base case. This cohort are assumed to receive welfare payments
5	Rate of Indigenous Australian men aged between 15-64 not in the labour force	39%	Australia Bureau of Statistics, 2011, available from http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4102.0Main+Features20Nov+2013	Determines the rate of Aboriginal prisoners who leave prison, and don't become employed but also don't claim welfare. This is the rate applied in the base case
6	Rate of Indigenous men who leave prison and gain employment.	32%	See above.	This is the outcome assumed to occur for those who don't reoffend and don't gain employment (assumptions X and X). That is the residual of those not in the labour force (39%) and those unemployed (29%).
7	Annual cost of keeping an adult offender in custody in 2014-15, based on $332.00 per day	$121,180	Department of Corrective Services, Western Australia, available from: https://www.correctiveservices.wa.gov.au/_files/about-us/statistics-publications/annual-reports/DCS-2014-2015/dcs-annual-report-2014-2015-online.pdf	Determines the saving to the State Government from avoiding FBP participants from reoffending and returning to prison with two years.
8	Average salary for a graduate from FBP	$100,000	Fairbridge	The salary earnt by FBP graduates is used to estimate the value of the productivity benefit.

Technical Appendix- Assumptions (2/3)

#	Description of assumption	Assumption	Source	Relevance
9	Employment tenure with within the resources sector	1.5 month, 5 months, 2 years and 8 months	Fairbridge, McCrindle, available from: http://mccrindle.com.au/the-mccrindle-blog/job-mobility-in-australia	Fairbridge tracked the employment of participants once they started with Bis Industries. Participants were graded as retaining employment for 0-3 months, 4-6 month or still employed. Those that had ceased employment are assumed to have done so at the median time in each group (1.5 and 5 respectively). Those still employed are assumed to remain so for the average tenure of an Australian employee aged between 25-35 (the median aged of FBP participants)
10	Average Aboriginal and Torres Strain Islander prison sentence duration	2.6 years	Australian Bureau of Statistics, 2014, *Prisoners in Australia, 2014,* Table 24	Determines the duration of the benefit measurement period for each participant who, as a result of undertaking the FBP, avoids repeat offending.
11	Graduation rate- FBP participation	82.3 %	Fairbridge	Determines the rate at which FBP participants graduate from the program. This is based on the initial evaluation undertaken by FBP in which 45 of the 54 eligible participants graduated from the program.
12	Recidivism rate- FBP graduates	14.3 %	Fairbridge	Determines the rate at which FBP graduates re-offend within two years. This is based on the initial evaluation undertaken by FBP in which 5 of the 35 eligible participants reoffended within 2 years.
13	Employment rate- FBP graduates	82.9%	Fairbridge	Determines the rate at which FBP graduates gain employment after being released from prison. This is based on the initial evaluation undertaken by FBP in which 29 of the 35 eligible participants secured employment after graduating.
14	Unemployment rate- FBP graduates	2.9%	Fairbridge	Determines the rate at which FBP graduates become unemployed after being released from prison. This is based on the initial evaluation undertaken by FBP in which 1 of the 35 eligible participants became unemployed after graduating. This cohort are assumed to receive welfare payments.
15	Cost per participant- FBP	$53,556	Fairbridge	Determines the cost to provide training to each participant. This is based on the historic cost of delivering the service.

Technical Appendix- Assumptions (3/3)

#	Description of assumption	Assumption	Source	Relevance
16	Fixed capital cost (upfront)	$1,686,300	Fairbridge	Cost of all fixed capital and equipment necessary to provide the program.
17	Number of participants in transition Path 1 year	10.18	Fairbridge	This is based on historic outcomes associated with the program and those assumed to occur in the absence of the program (the 'base case'). Determines the number of participants each year that accrue benefits associated with this transition.
18	Number of participants in transition Path 2 year	6.94	Fairbridge	This is based on historic outcomes associated with the program and those assumed to occur in the absence of the program (the 'base case'). Determines the number of participants each year that accrue benefits associated with this transition.
19	Number of participants in transition Path 3 year	3.60	Fairbridge	This is based on historic outcomes associated with the program and those assumed to occur in the absence of the program (the 'base case'). Determines the number of participants each year that accrue benefits associated with this transition.
20	Number of participants in transition Path 4 year	3.57	Fairbridge	This is based on historic outcomes associated with the program and those assumed to occur in the absence of the program (the 'base case'). No benefits are assumed to accrue from this transition.
21	Number of participants in transition Path 5 year	0.71	Fairbridge	This is based on historic outcomes associated with the program and those assumed to occur in the absence of the program (the 'base case'). No benefits are assumed to accrue from this transition.
22	Number of participants in transition Path 6 year	5.00	Fairbridge	This is based on historic outcomes associated with the program and those assumed to occur in the absence of the program (the 'base case'). No benefits are assumed to accrue from this transition.

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