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Greater Manchester Cost Benefit Analysis: Technical Specification

Version 1.0

JANUARY 2011

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1 Introduction

1.1 Development of this document

This document details the functional specification for the cost-benefit analysis (**CBA**) model that Greater Manchester (**GM**) propose to use in order to appraise and evaluate our interventions in respect of improving early years opportunities and offering better life chances in some of our most deprived neighbourhoods.

Our CBA model has been developed through collaboration between GM analysts and staff from the central government departments who have an interest in GM's current initiatives around early years and better life chances initiatives and who will, in the coming years, play a key role in GM's Community Budget ambitions. Thus, this document is the outcome of dialogue and agreement between the GM analysts and central government departments.

The GM analysts and relevant staff from central government departments meet as a group on a regular basis in order to review and advance the GM CBA modelling work. The membership of the group is as follows:

- James Binks, Joseph Lowe, Victoria Harrison; HM Treasury (HMT)
- Joseph Cleese, Paul Mooney; Department of Work and Pensions (DWP)
- Frank Bowley; Department for Business Innovation and Skills (BIS)
- Uma Datta; Department of Health (DoH)
- Jonathan Rhind, Michael Barrow, Colin Lovegrove, Elizabeth Whatmore; Department of Communities and Local Government (DCLG)
- Edward Wooley, Andrew Charlesworth-May, Russ Aziz, Nafisa Mathia; Department of Education (DfE)
- Brian Farthing, Tom Bain; Ministry of Justice (MOJ)
- Simon Bullock, David Clarke; Home Office (HO)
- Melanie Duffield, Sara Brattan; Child Poverty Unit (CPU)

From Greater Manchester, the group includes:

- Baron Frankal, Julian Cox, David Morris; New Economy
- Sarah Henry, Carol Culley; Manchester City Council (MCC)

The cost benefit methodology adopted in this document has been developed with input and guidance from the Technical Advisory Group, comprising members from HMT, DCLG, DWP, BIS, DH, DFE, HO and MOJ.

This group will support Greater Manchester in improving the document over time as required.

This document should be used as the basis for modelling Community Budgets in Greater Manchester. It provides a common currency for Government and Greater Manchester to work together to pool multiple budgets for families with complex needs, reducing reoffending and other issues.

1.2 Purpose of the document

The primary audience for this document is CBA experts and economists. By reading this document CBA experts will gain a clear understanding of the technical approaches GM will use to demonstrate the cost-effectiveness of public policy interventions. CBA experts will note the commonalities between GM's approach and the methods recommended by official guidance notes. They will also understand the primary and secondary data and evidence we have reviewed and upon which we will call in order to translate outcomes in monetary values.

Policy makers and generalists should also have use for this document. Firstly, the document provides an introduction to CBA for those who have not encountered CBA as a performance management tool. Secondly, it will generate confidence in GM's ability to commission interventions that are forecast / proven to be cost-effective, and in GM's capacity and willingness to continue to monitor and evaluate interventions once funding has been secured.

1.3 Structure and contents of the document

The document is structured as follows:

- Chapter 2 explains what benefits GM will realise from possessing a cost-benefit model and the points at which we will apply the model to proposals and projects.
- Chapter 3 lists the existing guidance and best practice upon which we have drawn when building the model.
- Chapter 4 summarises the *two main inputs* that will be needed to run the model: data on project costs; and evidence of project outcomes.
- Chapter 5 summarises the *two main outputs* that will be produced by the model: benefit-cost ratios for individual proposals/projects; and forecasts of total savings if a proposal/project was mainstreamed across GM.

- Chapter 6 provides more detail on how we will calculate the cost figures that will be inputted into our model, explaining how we will identify the marginal cost of interventions and how we will work out costs for particular public agencies.
- Chapter 7 provides more detail on how we will track outcomes from GM interventions, how these will be translated into net outcomes via the use of comparator areas, and our general approach to placing values (monetising) on these outcomes.
- Chapter 8 sets out the evidence and assumptions we will use in order to track and monetise individual outcomes for individual government departments. To aid government department's use of this document, each outcome section includes a list of the government agencies whose work relates to that outcome.
- Chapter 9 switches the focus to consider how we will treat the outputs from the model, in terms of developing benefit-cost ratios for interventions, up-scaling findings to the GM level and accounting for risk and uncertainty.
- Chapter 10 provides links to further sources of information and support relevant to our work.

1.4 Document version status

This document is version 1.0 of the Cost Benefit Analysis Technical Specification that has been developed between GM economists and central government departments. Updates to this document are planned to extend this approach from a framework for evaluating the GM spatial pilots, into a framework for monitoring and evaluating the Community Budget propositions that are currently being developed.

The analyst team points out that it is not possible to predict all the interventions to which this model will be applied. Changes in political and/or economic contexts make it impossible to predict the nature or scale of all the early years and better life chances interventions across GM. It may be that new priorities or approaches arise, necessitating a revisiting of this model to incorporate new outcomes and new assumptions around the value of these outcomes.

Furthermore, it is the intention of the GM team to update and improve our cost-benefit models as projects and programmes report primary data on the outcomes they achieve and the value of these outcomes to the taxpayer and the wider economy (see chapter 2 for more detail on our iterative approach).

Thus, we intend to publish further versions of this document in due course.

2 Objective of analysis

2.1 Stages at which cost-benefit analysis can be applied

Cost-benefit analysis (**CBA**) models can offer valuable information at multiple stages in the project lifecycle:

- At the *pre-delivery stage* CBA can inform ex-ante appraisals of what return on investment a proposal may be expected to deliver. Based on this information, commissioners may choose to allocate scarce public funds towards those proposals that are expected to deliver the greatest return.
- During the *delivery stage* regular CBA, based on up-to-date project management data, can tell us whether a project is achieving, or is likely to achieve, its forecast return on investment. If a project is found to be failing to meet expectations, project managers can redesign delivery or, in some cases, stop delivery and reallocate funds to better performing projects.
- *Post-delivery* CBA is one way of judging whether a project has been worthwhile undertaking. Ex-post CBA provides lessons for commissioners. It also gives us information with which to update and improve the assumptions that are used in ex-ante appraisals of future projects (for example, based on past CBA, we assume that achieving *outcome X* will be worth *amount y*).

2.2 Ongoing development of the GM cost-benefit model

In recognition of the multiple roles that CBA can play, the GM partners have committed to developing a flexible CBA model that can be used before, during and after project delivery. We will start with an ex-ante, appraisal model. This will produce benefit-cost ratios (**BCR**) of individual projects based on:

- estimates of how many residents these projects will benefit;
- forecasts of what projects will cost the taxpayer; and
- assumptions around what the value of project benefits will be to the taxpayer/wider economy.

As projects begin to deliver across GM, we will ask project managers to collect and report data and information on:

- the numbers of people they are working with;
- how many are achieving specified outcomes; and
- how much it is costing the taxpayer to run the project.

This information will be extrapolated to cover the lifetime of the project and fed into our ex-ante CBA model to produce a new BCR.

Once a project has completed, a final evaluation report will be produced, setting out total outputs and outcomes and total project costs. Based on this information our CBA model will be transformed into ex-post, evaluation tools, with real-life, evidenced figures for engagement and impact rates and the fiscal/economic value of achieving specific outcomes. A third and final BCR will be generated and we will update the values and assumptions in our ex-ante CBA model to produce a more accurate, primary evidence based CBA model.

If this approach is successful it will mean that, year-on-year, GM partners are able to use past evidence and knowledge to make more accurate forecasts in relation to future propositions.

The corollary of developing a CBA model that will be updated and improved over time is the need to acknowledge that the benefit cost ratios produced by such a model will never be 100% accurate estimates of a project or programme's worth. There will be assumptions and/or reliance upon secondary data which weaken our ability to draw broad policy lessons from individual project or programme reviews.

In recognition of this weakness the GM team is making two proposals:

- Firstly, all outputs from our CBA model will be subjected to a range of risk and sensitivity tests (see chapter 9) in order to understand more about the degree of confidence with which we should treat the outputs from our model.
- Secondly, when GM partners commission and evaluate interventions they will be advised to consider more than just the benefit-cost ratio of the intervention. They will be advised to consider interventions from a range of perspectives, including qualitative feedback, strategic contribution and GM's capacity to delivery, alongside the benefit-cost ratio.

3 Background to approach

3.1 Reference texts

Our model, the processes it follows and the assumptions it makes, are based, wherever possible, on the best practice recommended by existing guidance. This means that a CBA expert will not need a detailed understanding of the GM CBA model or the local context in order to interpret our results. It also means that a lay reader will have multiple sources from which to gain an understanding of our work.

The key document that has informed the development of the Greater Manchester CBA model is HM Treasury's *Green Book*.¹ From the Green Book we have drawn guidance on technical details such as:

- The importance of agreeing the objectives of any intervention, the indicators which will be used to measure achievement, and the timescale over which outputs and outcomes will be monitored;
- The task of considering, and where possible agreeing the value of, three types of outcomes from public sector interventions: fiscal, economic and social outcomes;
- The need to count all the costs that the public sector incurs in order to deliver an intervention, including those that are borne by agencies other than the direct sponsor of an intervention;
- The discount rate that should be applied to costs and benefits that will be realised in future years;
- The need to adjust outputs from CBA to account for risk and uncertainty.

Individual government departments have their own CBA models. These models often serve to add extra 'modules' to the Green Book; for example, DWP provides further guidance on how researchers should model the costs and benefits associated with moving somebody off benefits and into sustained employment. In addition to the Green Book, we have drawn on the following guidance notes:

- DWP – The Department for Work and Pensions Social Cost-Benefit Analysis framework²
- BIS – Additionality guidance³

¹ The Green Book : Appraisal and Evaluation in Central Government, HM Treasury 2003

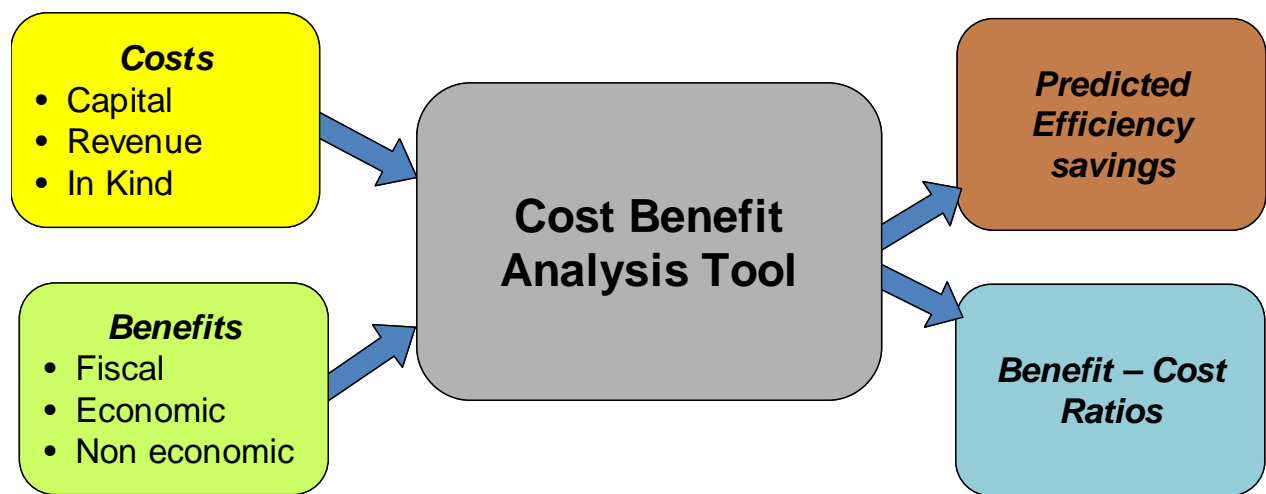
² "Social Cost-Benefit Analysis Framework", Daniel Fujiwara, DWP, 2010

³ "BIS Occasional Paper No. 1 – Research to improve the assessment of additionality", 2009

- Cabinet office/New Economics Foundation – *A guide to Social Return on Investment*: we have reviewed the advice contained in this document around proxies that can be used to place values on the social outcomes of public policy;
- Volunteering England – *Volunteer Investment and Value Audit*: our models follows Volunteering England’s advice on how to count and value the in-kind costs associated with voluntary/third sector input into public sector projects;

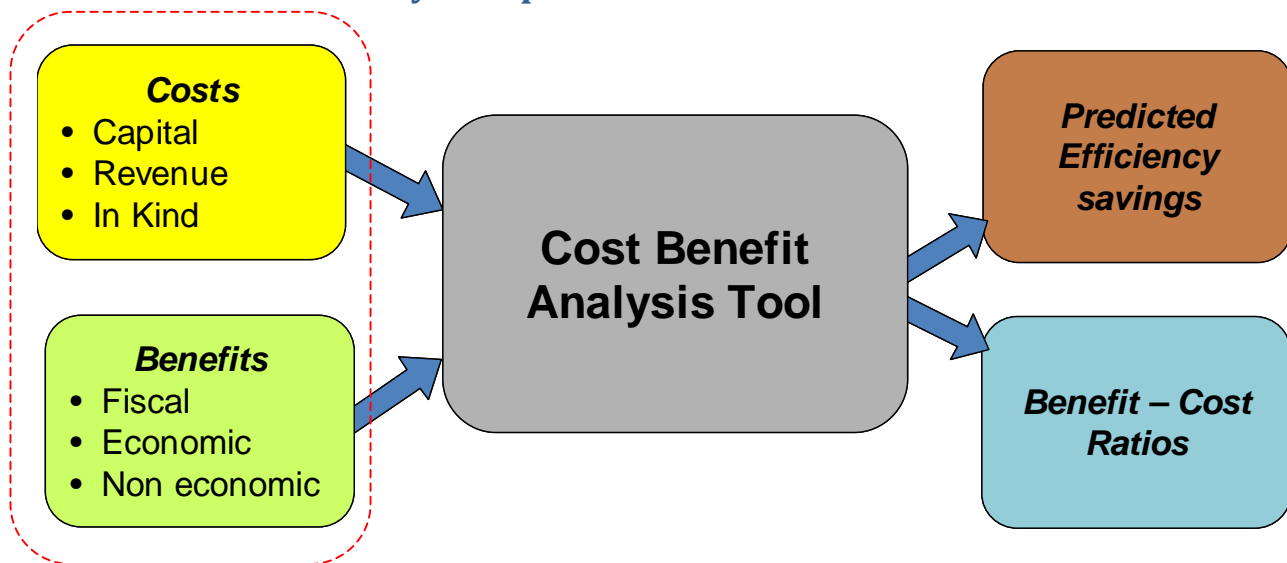
This document highlights where our CBA model draws on existing guidance documents.

3.2 Analysis structure



The above diagram schematically shows the structure of the analysis carried out. In the following chapters we outline the detailed approach we will take at each stage of the analysis.

4 Cost Benefit Analysis Inputs



There are two key inputs into our model: costs and benefits (or outcomes).

4.1 Types of costs

Our model aims to capture all the costs associated with delivering a specific service or intervention within a pilot area. The model sums three different types of costs:

- **Capital costs** – one off investments such as new/refurbished buildings and facilities;
- **Revenue costs** - costs which tend to fluctuate in relation to the amount of activity being undertaken, such as staff salaries;
- **In-kind costs** - those inputs which are needed in order to make a pilot a success but which the public purse will not have to pay for – these are counted because there will be an opportunity cost associated with using these resources for pilot activities and not for something else.

Some interventions will be designed to make immediate cost savings through streamlining services and avoiding duplication. These savings should be subtracted from an intervention's delivery costs rather than included as a benefit.

4.2 Types of benefits

Our model seeks to place a value on three different types of benefits (or outcomes) associated with delivering a specific service or intervention within a pilot area. These are:

- **Fiscal benefits** – savings to the taxpayer that are due to a specific intervention – for instance, reduced health service, police or education costs;
- **Economic benefits** – gains which accrue to individuals – for instance, increased earnings – or the whole economy – for instance, increased GVA due to more people being employed;

- **Social benefits** – gains which accrue to society – for instance, increased satisfaction with the quality of public services within the pilot area.

4.3 Identifying marginal costs and marginal benefits

The CBA approach being taken to monitor the success of the GM spatial pilots is to compare the additional outcomes achieved by the pilot with the additional costs of delivering the pilot.

In order to do this it is important to:

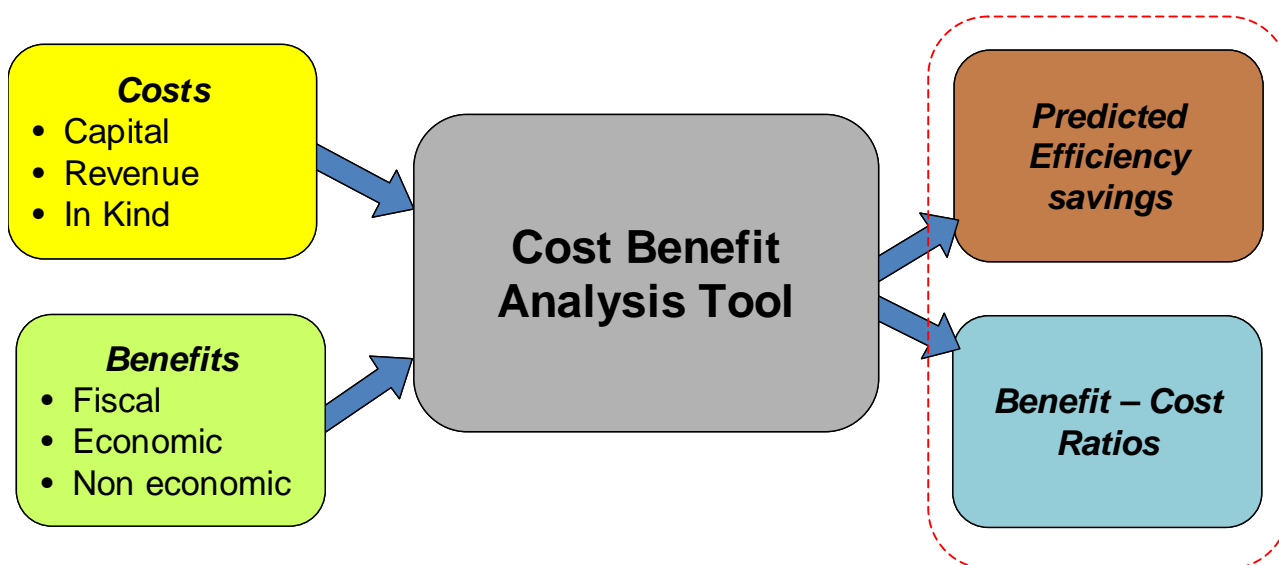
1. have a comprehensive view of both the costs of providing the services offered by the pilots, and also the outcomes predicted/achieved from the pilot;
2. to make an assessment of the costs and outcomes that would result if the pilot was not to take place (known in technical terms as accounting for deadweight).

The methodology and assumptions behind calculating these additional costs and benefits are covered in more detail in chapters 6 and 7.

4.4 Analysis time frame

The Cost Benefit Analysis that has been carried out for the spatial pilots has been based on a five year assessment of costs and benefits. This has been chosen to reflect the need to identify short term savings to the public sector. However, the approach outlined in this document can be used to assess the benefits over any time frame that agencies wish to consider.

5 Cost Benefit Analysis Outputs



There are two outputs from the model – benefit cost ratios and net present efficiencies. The former will tell us whether projects provide value for money; the latter will tell us whether projects will deliver overall savings from an initial investment.

5.1 Benefit Cost Ratios

The Benefit Cost Ratio measure is a ratio of the monetised value of the outcomes of the pilot (the benefits) to the cost of implementing the pilot.

$$BCR = \text{Benefits/Costs}$$

This measure provides an indication of the level of return on investment achieved by the pilots.

A $BCR < 1$ indicates that the pilot has cost more than it has achieved and therefore is not economically beneficial and should be decommissioned. A BCR of 1 is the break even point at which the benefits achieved exactly match the costs incurred. It could be argued that any scheme which has a benefit cost ratio > 1 should therefore be progressed. However, this is impractical if funding is limited and decisions have to be made as to where to best allocate funds. This is where the BCR can be a powerful decision support tool, as projects can be prioritised based on their BCR. Those projects with a high BCR should be progressed first, and projects with a BCR just above 1 given a lower priority.

In order to provide a consistent measure of costs and benefits now and into the future, future costs are discounted to produce a Net Present Value (NPV) (see section 9.1 for further details). The NPV which is used in the BCR calculation.

Individual BCRs will be produced for fiscal benefits, economic benefits and non-economic benefits. Further detail on the definitions of each of these types of benefits can be found in section 7.2.47.2.3.

5.2 Net present efficiencies

BCRs do not always provide a meaningful ways of comparing different programmes. For example, a pilot may be streamlining services, and reducing the overall level of costs. For this pilot the marginal cost would be negative, and therefore the result of the Benefit Cost Ratio calculation would produce a negative value. To the casual observer such an outcome would suggest that the pilot was not worth continuing, when in fact the pilot has made a positive contribution in terms of reducing delivery costs.

This example illustrates the importance of having a second way of assessing the success of the pilots, namely their net present efficiency, which we have defined as follows.

Net present efficiency = Net present value of the benefits – Net present value of the costs

Projects with a higher net present efficiency should normally be chosen first. However, as noted, any funding constraints need to be taken into account.

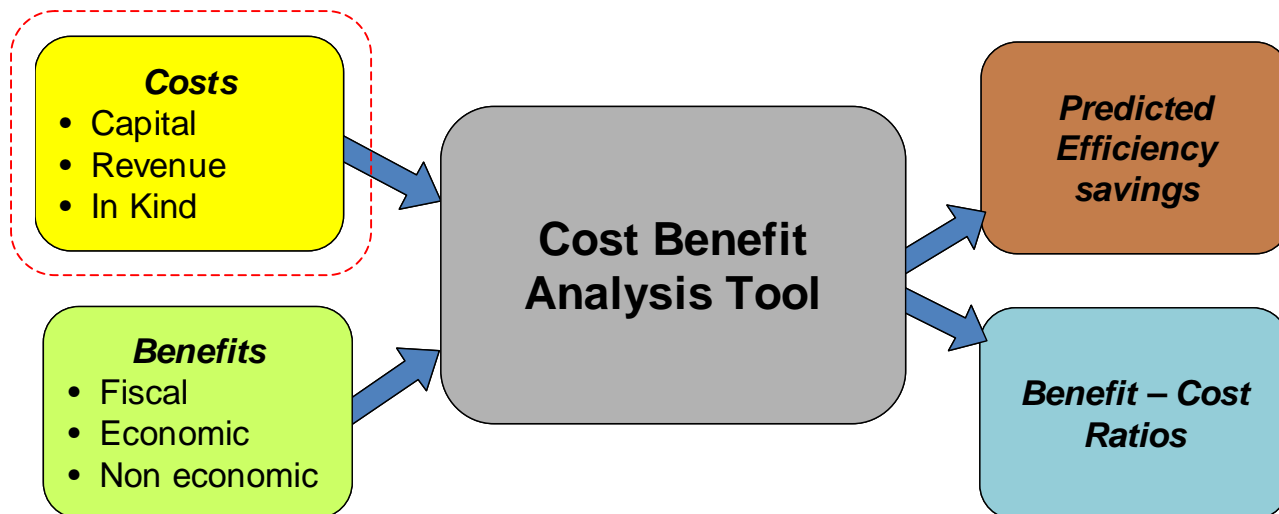
5.3 Use of the CBA model outputs in decision making

The figures produced by the CBA model give support to decision makers deciding whether to commission or decommission services. However, they should be used carefully, with a full understanding of the limitations that may exist in the data and assumptions used in the analysis. It is important that CBA is used as a decision support tool rather than a decision making tool.

Due to the current financial pressures on public services, the most useful analysis is likely to be the outputs relating to fiscal benefits – i.e. the fiscal Benefit Cost Ratio, and the fiscal net present efficiency (to give an indication of cashable savings).

The economic and non-economic results will give the broader picture as to the additional benefits to Greater Manchester that can be achieved.

6 Costs – method of calculation



A pre-requisite to cost-benefit analysis (and to meaningful evaluation in general) is the ability to accurately identify the costs that are associated with the programme which is being analysed and evaluated.

For each intervention being assessed we will calculate two cost figures: one which relates to the cost of delivering services without any intervention (the reference case); and one which relates to the cost of delivering services with the intervention.

6.1 Reference case costs

The reference case is the existing business as usual approach to dealing with specific issues. We have developed a framework that will enable pilot teams to break down, calculate and report the costs that the public purse has been incurring to deal with these issues (such as worklessness or lack of school readiness amongst young children) prior to the design of the intervention.

The framework starts by asking pilot teams to break down how services and support is currently delivered at four stages in the client journey. These four stages are:

- Contact and engagement – when agencies are identifying who needs support;
- Assessment – establishing the exact needs of these residents and planning a response;
- Interventions – the delivery of support;
- Reviewing – as participants move towards the end of their engagement there is the need to review achievements.

It then asks pilot teams to take each of these stages in turn and:

- List the agencies who currently incur costs;
- Against each agency, list the types of costs they incur (we are asking pilot teams to split total costs into revenue, capital and in-kind costs).

By undertaking these three approaches, pilot teams will be able to produce a detailed profile of which agencies are incurring what types of cost and when this occurs. We will then place values against each of these types of cost.

Reference option costs for each pilot will be compared to the reference option costs being reported by other pilots to check that the figures being reported seem reasonable.

6.2 Intervention case costs

The approach used to calculate intervention case costs will be similar to that used to calculate reference option costs. Pilot teams will be asked to consider which agencies will incur what types of costs at each of the four stages in the customer journey. From this we will build a bottom-up model of intervention case costs to be measured against the reference option cost in order to demonstrate the net cost of an intervention.

Our initial intervention case cost figure will be an estimate, calculated before the pilot has completed all its activities. Within this estimate there will be several costs which we cannot accurately forecast. For instance:

- We cannot definitively state how much will need to be spent on delivering support until the pilot starts operating on the ground;
- We cannot accurately forecast the amount of funding we will save as a result of more efficient staff working until the new delivery model has had time to get going.

Initially we will fill in these gaps in our knowledge with informed estimates of how many participants a pilot will engage and what it will cost to support each participant based on previously evidenced cost figures.

In the longer-term, all pilot teams will be required to gather and review cost data throughout their two years of operation.

Thus, over time, our estimates of the intervention case costs, and hence marginal cost, will become more accurate.

6.3 Calculation of marginal costs based on pilot delivery model

How we calculate the marginal cost of each intervention will vary depending on the delivery model being employed by the intervention.

The pilots will be split into two categories:

Provision of additional services

Where new services are being provided which are not currently provided, the identification of marginal cost will be relatively straightforward. The pilot cost will simply be the cost of providing the services, identified using the framework described above. The reference costs will be assumed to be zero, because the costed services are currently not being provided.

Reorganising services to reduce duplication and provide a more streamlined approach

Calculating the marginal cost under a reorganising services model will be more complex. We will recommend that pilots undertake a two step process:

- The first step will be to review all the agencies involved in the reference option provision of the services and determine their unit cost per resident;
- The second step will then be to review the new way of working and identify the costs of the pilot option approach.

If agencies are being brought together in a combined team, pilot costs are calculated based on the costs of providing this combined service. The reference costs are calculated by assessing the overall costs of each agency included in the pilot, and apportioning costs to the pilot area based on the caseload in the pilot area compared to the overall caseload for the agency. An example is shown below:

JobCentre Plus costs example - The local job centre covers not just the pilot neighbourhood, but also 2 other more affluent neighbourhoods nearby.

- The total costs of providing all JC+ services from the job centre are £3m/year.
- The case load in the pilot area is just over half that of the whole area.
- Number of individuals on benefits in pilot area = 1200
- Number of individuals on benefits in whole JC+ area = 2000
- Reference costs for JC+ = $£3m \times 1200/2000 = £1.8m/year$.

6.4 Approach used to identify costs by agency

Each pilot involves input from a range of departments and agencies. We will develop a model which captures all the costs incurred by these partners both under the reference case option and under the pilot option. Below we provide more detail on our approach to working out costs for key partners.

6.4.1 Council department

From sessions with pilot teams we predict that the key council departments (or their locally named equivalent) which will incur costs as a result of pilot costs will be: Children and Young People's Services; Adult Services; Employment and Skills; Drug and Alcohol team; Crime and disorder reduction partnership; Housing; Environmental Services; and Research and performance.

Pilot teams will receive support from local authority finance teams to calculate the costs each of these departments incurs delivering services within the pilot areas.

We will be asking the pilot teams to report revenue, capital and in-kind costs. Of these, revenue costs are likely to be largest and will cover the following:

- Staff salaries (pro-rated for those staff who spend a % of their working week on activities not related to the pilot);
- On-costs – National Insurance and pension costs for these staff (again pro-rated for staff who do not work full-time on the pilot);
- Overhead costs – to account for rent and utility costs we will ask finance teams for an average percentage addition to total staff costs;
- Staff travel and subsistence expenses – especially important for those staff whose role involves outreach activities.

We will ask pilots to identify where a specific council department will incur non-staffing related costs due to pilot activity. For instance, Children's and Adult Services teams may provide venues for pilot activity to be delivered from. We will ask finance teams to provide information on hire costs for such venues and multiply these costs by the amount of time pilots will use such venues. Other non-staffing costs incurred by councils are likely to relate to the production of leaflets and materials with which to recruit participants and to accompany the delivery of support.

6.4.2 Jobcentre Plus

From the DWP's Total Place 0910 dataset we know how much it costs the DWP to run Jobcentre Plus offices in the two districts that cover Greater Manchester (Central and East/West). We can also use this dataset to identify the cost of delivering Employment Programmes such as New Deal and Pathways to Work.

We will be arranging a meeting with the two Jobcentre Plus districts at which we will obtain more detailed information on the numbers of offices and staff which deliver services within the pilot and comparator areas. We will also ask Jobcentre Plus to provide us with figures for the numbers of GM residents who are on the various Employment Programmes.

With this additional information we will be able to calculate the cost of providing Jobcentre Plus services within the pilot areas and the cost per participant for each pilot resident who is on one of the Employment Programmes. We propose to use these average costs for all the pilot areas unless advised differently by Jobcentre Plus.

It should be noted that a large range of Jobcentre Plus services are universal and will not be impacted by the novel approaches taken by the pilots.

6.4.3 Greater Manchester Police

We are having discussions with Greater Manchester Police and the Police Authority in order to identify which neighbourhood policing teams correspond to each pilot and comparator area.

We will then build up a top-down picture of the costs associated with these neighbourhood teams (staff salaries, police station running costs etc). We will work with the GMP Human Resources team in order to produce these cost estimates.

GMP costs will also be investigated to review the monetisation of certain outcomes – e.g. Antisocial Behaviour, by identifying local unit costs incurred in responding to these incidents.

6.4.4 Health service provision

We have held initial meetings with PCT representatives in order to understand how we will be able to access LSOA level data on health services expenditure within the pilot and comparator areas. Based on these meetings, we plan to use a combination of the NHS *Programme Budgeting Benchmarking* tool, the Department of Health's *Reference Costs of Treatment* tool and the NHS *Comparators tool* in order to calculate a top-down estimate of health service expenditure within pilot and comparator areas.

For accuracy, our top-down figures will be compared to bottom-up figures compiled by pilot teams who will work closely with health visitors, midwives, GPs etc to understand the level of health service costs incurred by pilot initiatives.

By combining these two approaches we hope to be able to identify health service unit cost figures for different types of residents (0-5s, adults, long-term sick etc) within the pilot and comparator areas.

6.4.5 Educational providers

We will be asking all pilots who have contact with education providers (nurseries, primary schools, further education colleges, training providers etc) to ask these partners what costs they incur as a result of pilot activities.

Discussions are also underway with DfE in relation to education costs and in particular, special educational needs costs.

6.4.6 Voluntary sector

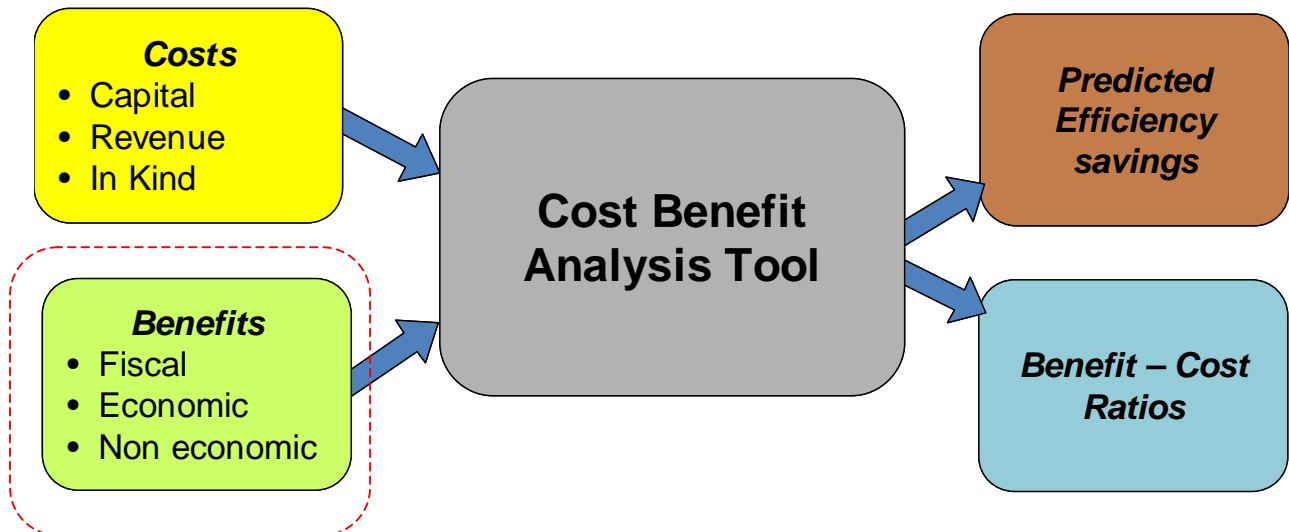
Several GM pilots will include support from the voluntary/third sector, in some instances given for free or at below market rates. We are asking all pilots to state whether this is the case for their intervention model and if it is, instructing them to quantify and value the amount of support they receive from voluntary/third sector agencies.

The main types of support from the voluntary sector, and the quantification approach we will use for each, are set out below:

- *Volunteer staff time* – we will follow Volunteering England’s recommendations on how to value the time given by volunteers to a project.
- *Free use of community facilities/venues* – we will ask pilots to estimate/record the length of time over which they will benefit from these services and multiply this figure by an hourly rental rate.

7 Benefits – method of calculation

7.1 Outcomes



For each pilot, the analysis is broken down into the impact on a number of specific outcomes. These are split into two categories:

- 1) Core outcomes which are always included in the analysis and a set by the type of pilot intervention proposed (Better Life Chances and Early Years)
- 2) Secondary or neighbourhood outcomes which are included in the analysis if the pilots are specifically aiming to improve these outcomes

The outcomes that are currently included in the analysis are:

7.1.1 Better Life Chances core outcomes

- Reduction in the number of individuals claiming Job Seekers Allowance (JSA) in the pilot area;
- Reduction in the number of individuals claiming Incapacity Benefit (IB) or Employment and Support Allowance (ESA);
- Reduction in the number of individuals claiming Lone Parent Income Support (LPIS);
- Increase in population qualified to Level 2 and Level 3 skills;
- Reduced number of Children in Poverty.

7.1.2 Early Years core outcomes

- Improved school readiness (increased number of pupils achieving 78+ points at Early Years Foundation Stage);
- Reduced parental mental health problems (number of individuals with anxiety and depression);
- Reduced avoidable A&E attendance;
- Reduced number of Children in Poverty;
- Increased parental work readiness (reduced numbers of parents on benefits);
- Reduced incidents of domestic violence.

7.1.3 Secondary outcomes

- Reduced number of anti-social behaviour incidents;
- Reduced housing evictions;
- Reduced numbers of children in care;

Other secondary outcomes that are identified by the pilots will be assessed on a case by case basis to identify whether they can be included in our cost benefit model.

Details of assumptions made for each outcome and the means of monetising the outcomes are outlined in Chapter 8.

7.2 Analysis approach

7.2.1 Input data

For each outcome data is collected from the pilot teams to determine the inputs into the analysis.

The following data is required to be inputted into the spreadsheet

- The total population in the pilot area (e.g. total working age population);
- At risk / targeted population at risk (e.g. number of individuals on IB/ESA);
- Level of engagement with the target population (%age individuals who engaged with the services and who continue to be engaged until the intervention is complete);
- %age impact in changing the outcome (%age success at achieving the desired outcomes - e.g. getting the individual into employment).

7.2.2 Deadweight

When calculating the incremental benefits of a scheme, the change in outcomes that would have happened anyway is known as the deadweight. For the evaluation of the pilots, this deadweight will be calculated in two ways, dependant on the type of cost benefit analysis being undertaken:

- 1) For use in predictive cost benefit analysis (estimating the impact of the pilots prior to implementation) this deadweight is determined by forecasting the trends in outcome indicators over the two years of the pilot, taking account of cyclical effects (e.g. for JSA volumes);
- 2) During or at the end of the pilot, evaluative cost benefit analysis (looking back and determining the success of the pilot) can be done more robustly by two methods:
 - a. For measures which are not affected by localised changes or transience of individuals into and out of the pilot area, by assessing the change in outcome measures of comparator areas (see details below).
 - b. For other measures, by measuring changes in outcomes of individuals engaged in the pilot through a robust monitoring and evaluation plan.

7.2.2.1 Comparator areas

The proposed comparator areas are Wards which have been chosen because they have similar characteristics to the pilots, based on the 2007 Index of Multiple Deprivation (IMD). For each pilot a comparator area has been chosen and is listed in the tables below:

Better Life Chances – Proposed Comparator Areas	
Pilot Area	Comparator Ward
Ardwick, Manchester	Langworthy, Salford
Brinnington, Stockport	Miles Platting and Newton Heath, Manchester
Broughton/Cheetham, Salford and Manchester	Central Rochdale, Rochdale
East Bury, Bury	Weaste and Seedley, Salford
Hattersley, Tameside	Gorton North, Manchester
Kirkholt, Rochdale	Harpurhey, Manchester
Little Hulton, Salford	Milkstone and Deepish, Rochdale
Norley, Wigan	Harpurhey, Manchester
Partington, Trafford	Hollinwood, Oldham
St Mary’s and Coldhurst, Oldham	Harpurhey, Manchester

Early Years – Proposed Comparator Areas	
Pilot Area	Comparator Ward
Ardwick, Manchester	Langworthy, Salford
Denton South, Tameside	Waterhead, Oldham
East Bury, Bury	Spotland and Falinge, Rochdale
Kirkholt, Rochdale	Harpurhey, Manchester
Partington, Trafford	Hollinwood, Oldham
St. Mary’s and Coldhurst, Oldham	Langworthy, Salford
Westleigh, Wigan	Burnage, Manchester

7.2.2.2 Individual monitoring

For some outcome measures, it may not be possible to identify a change discernable from the background variation in the outcome measure. This does not however mean that the pilot interventions do not produce significant changes in outcome for the individuals involved. It is therefore important that pilot teams also collect information about the change in outcomes for individuals. In order to understand the deadweight for each individual, it is important to determine their previous history and make a judgement on the likelihood of a change in outcome occurring without the pilot intervention. For example, when assessing the interventions that will aid individuals to find employment, pilots should assess the working history of the individual over the last two years.

7.2.3 Assumptions for other impacts on additionality

7.2.3.1 Leakage

The pilot interventions may lead to changes in outcomes that benefit others outside the pilot areas or result in individuals moving out of the pilot areas. However, as the pilot areas are relatively small geographically compared to Greater Manchester, it is likely that these benefits will still remain within the Greater Manchester boundary. Therefore, no adjustment for leakage is proposed at this time.

7.2.3.2 Displacement and substitution

Displacement and substitution refers to the extent to which increases in outcomes (especially employment) are offset by reduction in outcomes elsewhere. For this analysis it has been assumed that employment in Greater Manchester is currently supply side rather than demand side constrained, and therefore displacement and substitution effects have been assumed to be zero.

7.2.3.3 Multiplier effects

No assumption has been made in the analysis that increases in outcomes have further knock on effects elsewhere in the pilot area. For example, the analysis assumes that no further economic activity occurs as a result of increased employment in the pilot area.

7.2.4 Monetisation

In order to turn outcomes of the pilots into a financial benefit that can then be used in the cost benefit analysis, each outcome needs to be monetised.

Each outcome is monetised under 3 categories:

Benefit Category	Description
Fiscal	Savings to central and local government agencies, resulting in reduced overall government expenditure
Economic	Economic benefits to individuals and companies in terms of increased income
Non-economic	Social benefits to individuals and society, e.g. increased health, well being and community cohesion

N.B. In order to realise fiscal savings, it is important to bear in mind that decommissioning will be required. Otherwise, other demands on services will backfill available capacity and remove the opportunity to deliver cashable savings.

7.2.5 Indexation

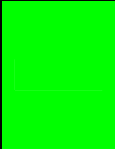
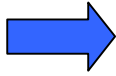

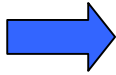

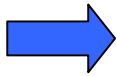

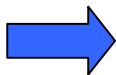

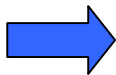
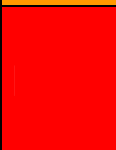
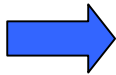
Monetisation values are recorded in the spreadsheet based on the year of the study/analysis from which they are taken. These are then converted to 2009/10 prices by using the GDP deflator indices produced by HM Treasury.⁴

⁴ http://www.hm-treasury.gov.uk/d/gdp_deflators.xls (September 2010)

7.2.6 Optimism bias (OB)

In general, commissioners and practitioners are overly optimistic about the outcomes that will be achieved by the project or programme. To account for this, the model applies correction factors to account for the level of uncertainty in the data or assumptions used. The OB approach used is based on the following confidence grade definitions:

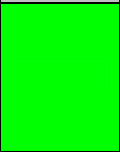
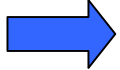
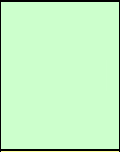
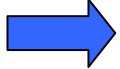
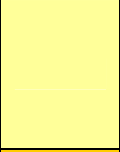

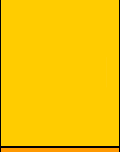

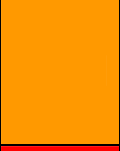
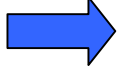
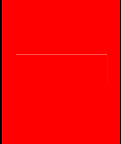

Confidence Grade for Cost data

Confidence grade	Colour coding	Data source	Age of data	Known Data error		Optimism bias correction
1		Independently audited cost data	Current Data (<1 year old)	+2%		0%
2		Formal service delivery contract costs	1-2 years old	+5%		+5%
3		Practitioner monitored costs	2-3 years old	+10%		+10%
4		Costs developed from ready reckoners	3-4 years old	+15%		+15%
5			4-5 years old	+20%		+25%
6		Uncorroborated expert judgement	>5 years old	+25%		+40%

The confidence grade of the data is determined by the lowest assessment in any of the descriptive columns. The optimism bias correction factor for the data is then determined based on confidence grade. Data in the spreadsheet is colour coded to allow visualisation of the quality of the data inputs.

Costs are then increased by the optimism bias correction for use in the analysis.

Confidence Grade for Benefits data

Confidence grade	Colour coding	Population/ Cohort Data	Evidence base (engagement / impact)	Monetisation evidence	Age of data / analysis	Known data error		Optimism bias correction
1		Figures taken from agency data systems	Randomised Control Trial in UK	Independent primary analysis	Current Data (<1 year old)	+/-2%		0%
2		Figures derived from local stats	International Randomised Control Trial	Practitioner primary analysis	1-2 years old	+/-5%		-5%
3		Figures based on national analysis in similar areas	Independent monitoring of outcomes with a robust evaluation plan	National Cost Benefit Framework	2-3 years old	+/-10%		-10%
4		Figures based on generic national analysis	Practitioner monitoring of outcomes with a robust evaluation plan	Secondary National analysis	3-4 years old	+/-15%		-15%
5		Figures based on international analysis	Secondary evidence from a similar type of intervention	International analysis	4-5 years old	+/-20%		-25%
6		Uncorroborated expert judgement	Uncorroborated expert judgement	Uncorroborated expert judgement	>5 years old	+/-25%		-40%

Again, the confidence grade of the data is determined by the lowest assessment in any of the descriptive columns. The optimism bias correction factor for the data is then determined based on confidence grade. Data in the spreadsheet is colour coded to allow visualisation of the quality of the data inputs.

7.3 Benefit Calculation

The monetary benefit for each outcome is calculated using the following formula:

$$\textit{Benefit} = \textit{at risk/targeted population} * \% \textit{engagement} * \% \textit{impact} * \textit{unit benefit} * (1 - \textit{optimism bias correction})$$

The timing of benefits is important, and therefore an assessment of the time before the benefit is realised is necessary. The analysis allows the benefits to be recorded on an annual basis over a five year period.

8 Assumptions and unit benefits for each outcome

8.1 Better Life Chances

8.1.1 Reduced Benefits claimants – Job Seekers Allowance (JSA)

Key associated government agencies - DWP, DH, MoJ, HO, Local Authorities.

Metric – Reduction in the number of individuals claiming Job Seekers Allowance (JSA) in the pilot area.

At risk/targeted population – Individuals on JSA in the pilot LSOAs.

Calculation – Number of individuals on JSA as determined from NOMIS. Gender and age split determined from NOMIS data – assumed to be consistent across benefit types.

Engagement – Dependant on pilot intervention.

Impact – Dependant on pilot intervention. Note that the monetisation figures below are based on entry to employment for a 12 month continuous period. Not all individuals entering employment will stay in a job indefinitely, and therefore an assessment of the length of employment should be included when calculating the impact of an intervention.

Monetisation – Using DWP Total Place Cost Benefit Framework guidance⁵.

The monetisation values per individual finding employment are outlined in the table below:

	Type of claimant	Monetised benefit per year per extra individual in employment		
		Fiscal	Economic	Non-economic
Reduced benefits payments	JSA	£7800		
Improved health – savings to NHS	JSA	£508		
Reduced crime	17-24 Male	£235	£952	£261
	25+ Male	£118	£476	£130
	17-24 Female	£57	£232	£64
	25+ Female	£19	£77	£21
Increased income			£3307	

⁵ Total Place Cost Benefit Framework - Adam Robinson, EG Partnerships Division, DWP 2010

Benefits payments - Reduced benefits claimants will result in savings to the DWP.

Health - The calculation to determine the impact on health service costs is based on a reduction in NHS services of 33 percent as outlined in the DWP guidance document. These savings will fall to the NHS. However, decommissioning of services is also necessary in order to cash these savings. These costs relate to general NHS costs, and are not broken down to include acute issues such as teenage pregnancy, drink and substance misuse. If these outcomes are targeted by the pilots, they should be assessed as specific outcomes and monetised individually.

Crime - For the reduced crime impact of employment, we have assumed that employment provides a 48% increase in income compared to benefits. This is based on analysis across Greater Manchester of off flows from benefits into different professions, assuming beneficiaries earn 75% of the average net wage for these professions (see Appendix 2).

The DWP guidance is based on studies considering the impact of income on the propensity to commit property crime. The recommendation in the guidance is to assume a 0.6% reduction in property crime for each 1% increase in income. Using this approach results in a 29% reduction in the cost of crime committed by the individual on average. A detailed summary of the DWP approach, including references to studies into the link between crime and income, can be found in the DWP Social Cost-Benefit Analysis Framework.⁶

Cost of crime figures have been reassessed using the DWP framework approach, splitting the costs down into fiscal, economic and non-economic benefits.

Criminal Justice System costs have been excluded from the analysis, except for costs related to policing. This is due to the relatively small scale of the pilots, and the limited opportunity to reduce the costs of courts and prison costs. We will work with local partners to understand the viability of including all Criminal Justice cost savings (e.g. Prison, Probation, Legal Aid, Courts and Crown Prosecution Service savings) as part of extending this framework to cover Community Budget activity under the Transforming Justice Programme.

Police costs have been included in the analysis. However, as for savings to the NHS, decommissioning of services will be necessary in order to cash these savings.

Increased income – the increase in earnings assumed per individual is based on the same analysis as has been used to determine the crime impact above – see Appendix 2 for details. To determine the increase in income for the individual employed compared to being out of work, an element to cover the travel to work costs (£433 as suggested in the DWP guidance) has been subtracted. Childcare costs have not been subtracted from the increased earnings,

⁶ “Social Cost-Benefit Analysis Framework”, Daniel Fujiwara, DWP, 2010

as these can be thought of as a transfer payment from one individual to another within Greater Manchester. We have also ignored the value of any lost leisure time through entering employment, as the majority of individuals are in involuntary employment and as such the value of this lost leisure time will be compensated for by the improved personal wellbeing achieved through employment (see non-monetised benefits below).

Non monetised benefits – other benefits may accrue from individuals entering employment that have not been monetised. These could include personal wellbeing improvements gained through employment, and the impact on the wider community through increased employment, especially through being role models for others seeking employment.

Deadweight:

- For appraisal – deadweight is valued at 26.3% of the benefits. This is based on an analysis of 16 People and Skills based evaluations carried out by BIS.⁷
- For evaluation – outcomes and deadweight will be determined based on individual case history before, during and at the end of the pilot. The number of months worked in the previous 2 year period prior to the pilot intervention should be assessed. Employment outcomes following the intervention should then be tracked and the additionality calculated as the difference in work history prior to and following the intervention.

⁷ “BIS Occasional Paper No. 1 – Research to improve the assessment of additionality”, 2009

8.1.2 Reduced Benefits Claimants – Incapacity Benefit (IB)/Employment Support Allowance (ESA)

Key associated government agencies - DWP, DH, MoJ, HO, Local Authorities.

Metric – Reduction in the number of individuals claiming IB or ESA.

At risk / targeted population – Individuals on IB/ESA in the pilot LSOAs.

Calculation – Number on IB/ESA as determined from NOMIS⁸. Gender and age split determined from NOMIS data – assumed to be consistent across benefit types.

Engagement – Dependant on pilot intervention.

Impact – Dependant on pilot intervention. Note that the monetisation figures below are based on entry to employment for a 12 month continuous period. Not all individuals entering employment will stay in a job indefinitely, and therefore an assessment of the length of employment should be included when calculating the impact of an intervention.

Monetisation – Using DWP Total Place Cost Benefit Framework guidance⁹.

The monetisation values per individual finding employment are outlined in the table below:

		Monetised benefit per year per extra individual in employment		
	Type of claimant	Fiscal	Economic	Non-economic
Reduced benefits payments	IB	£8160		
Improved health – savings to NHS	IB	£1016		
Reduced crime	17-24 Male	£235	£952	£261
	25+ Male	£118	£476	£130
	17-24 Female	£57	£232	£64
	25+ Female	£19	£77	£21
Increased income			£2947	

⁸ www.nomisweb.co.uk

⁹ Total Place Cost Benefit Framework - Adam Robinson, EG Partnerships Division, DWP 2010

Benefits payments - Reduced benefits claimants will result in savings to the DWP.

Health - The calculation to determine the impact on health services costs is based on a reduction in NHS services of 66 percent as outlined in the DWP guidance document. These savings will fall to the NHS. However, decommissioning of services is also necessary in order to cash these savings. These costs relate to general NHS costs, and are not broken down to include acute issues such as teenage pregnancy, drink and substance misuse. If these outcomes are targeted by the pilots, they should be assessed as specific outcomes and monetised individually.

Crime - for the reduced crime impact of employment, we have assumed that employment provides a 48% increase in income compared to benefits. This is based on analysis across Greater Manchester of off flows from benefits into different professions, assuming beneficiaries earn 75% of the average net wage for these professions (see Appendix 2).

The DWP guidance is based on studies considering the impact of income on the propensity to commit property crime. The recommendation in the guidance is to assume a 0.6% reduction in property crime for each 1% increase in income. Using this approach results in a 29% reduction in the cost of crime committed by the individual on average. A detailed summary of the DWP approach, including references to studies into the link between crime and income can be found in the DWP Social Cost-Benefit Analysis Framework.¹⁰

Costs of crime figures have been reassessed using the DWP framework approach, splitting the costs down into fiscal, economic and non-economic benefits.

Criminal Justice System costs have been excluded from the analysis, except for costs related to policing. This is due to the relatively small scale of the pilots, and the limited opportunity to reduce the costs of courts and prison costs. We will work with local partners to understand the viability of including all Criminal Justice cost savings (e.g. Prison, Probation, Legal Aid, Courts and Crown Prosecution Service savings) as part of extending this framework to cover Community Budget activity under the Transforming Justice Programme. Police costs have been included in the analysis. However, as for savings to the NHS, decommissioning of services will be necessary in order to cash these savings.

Increased income – the increase in earnings assumed per individual is based on the same analysis as has been used to determine the crime impact above – see Appendix 2 for details. To determine the increase in income for the individual employed compared to being out of work, an element to cover travel to work cost (£433 as suggested in the DWP guidance) has been subtracted. Childcare costs have not been subtracted from the increased earnings, as these can be thought of as a transfer payment from one individual to another within

¹⁰ "Social Cost-Benefit Analysis Framework", Daniel Fujiwara, DWP, 2010

Greater Manchester. We have also ignored the value of any lost leisure time through entering employment, as the majority of individuals are in involuntary employment and as such the value of this lost leisure time will be compensated for by the improved personal wellbeing achieved through employment (see non monetised benefits below).

Non monetised benefits – other benefits may accrue from individuals entering employment that have not been monetised. These could include personal wellbeing improvements gained through employment, and the impact on the wider community through increased employment, especially through being role models to others seeking employment.

Deadweight:

- For appraisal – deadweight is valued at 26.3% of the benefits. This is based on an analysis of 16 People and Skills based evaluations carried out by BIS.¹¹
- For evaluation – outcomes and deadweight will be determined based on individual case history before, during and at the end of the pilot. The number of months worked in the previous 2 year period prior to the pilot intervention should be assessed. Employment outcomes following the intervention should then be tracked and the additionality calculated as the difference in work history prior to and following the intervention.

¹¹ “BIS Occasional Paper No. 1 – Research to improve the assessment of additionality”, 2009

8.1.3 Reduced Benefits Payments – Lone Parent Income Support (LPIS)

Key associated government agencies - DWP, DH, MoJ, HO, Local Authorities.

Metric – Reduction in the number of individuals claiming Lone Parent Income Support (LPIS).

At risk / targeted population – Individuals on LPIS in the pilot LSOAs.

Calculation – Number on LPIS as determined from NOMIS. Gender and age split determined from NOMIS data – assumed to be consistent across benefit types.

Engagement – Dependant on pilot intervention.

Impact – Dependant on pilot intervention. Note that the monetisation figures below are based on entry to employment for a 12 month continuous period. Not all individuals entering employment will stay in a job indefinitely, and therefore an assessment of the length of employment should be included when calculating the impact of an intervention.

Monetisation – Using DWP Total Place Cost Benefit Framework guidance¹².

The monetisation values per individual finding employment are outlined in the table below:

		Monetised benefit per year per extra individual in employment		
	Type of claimant	Fiscal	Economic	Non-economic
Reduced benefits payments	LPIS	£6380		
Improved health – savings to NHS	LPIS	£508		
Reduced crime	17-24 Male	£235	£952	£261
	25+ Male	£118	£476	£130
	17-24 Female	£57	£232	£64
	25+ Female	£19	£77	£21
Increased income			£4727	

Benefits payments - Reduced benefits claimants will result in savings to the DWP.

¹² Total Place Cost Benefit Framework - Adam Robinson, EG Partnerships Division, DWP 2010

Health - The calculation to determine the impact on health services costs is based on a reduction in NHS services of 33 percent as outlined in the DWP guidance document. These savings will fall to the NHS. However, decommissioning of services is also necessary in order to cash these savings. These costs relate to general NHS costs, and are not broken down to include acute issues such as teenage pregnancy, drink and substance misuse. If these outcomes are targeted by the pilots, they should be assessed as specific outcomes and monetised individually.

Crime - For the reduced crime impact of employment, we have assumed that employment provides a 48% increase in income compared to benefits. This is based on analysis across Greater Manchester of off flows from benefits into different professions, assuming beneficiaries earn 75% of the average net wage for these professions (see Appendix 2).

The DWP guidance is based on studies considering the impact of income on the propensity to commit property crime. The recommendation in the guidance is to assume a 0.6% reduction in property crime for each 1% increase in income. Using this approach results in a 29% reduction in the cost of crime committed by the individual on average. A detailed summary of the DWP approach, including references to studies into the link between crime and income can be found in the DWP Social Cost-Benefit Analysis Framework.¹³

Cost of crime figures have been reassessed using the DWP framework approach, splitting the costs down into fiscal, economic and non-economic benefits.

Criminal Justice System costs have been excluded from the analysis, except for costs related to policing. This is due to the relatively small scale of the pilots, and the limited opportunity to reduce the costs of courts and prison costs. We will work with local partners to understand the viability of including all Criminal Justice cost savings (e.g. Prison, Probation, Legal Aid, Courts and Crown Prosecution Service savings) as part of extending this framework to cover Community Budget activity under the Transforming Justice Programme.

Police costs have been included in the analysis. However, as for savings to the NHS, decommissioning of services will be necessary in order to cash these savings.

Increased income – The increase in earnings assumed per individual is based on the same analysis as has been used to determine the crime impact above – see Appendix 2 for details. To determine the increase in income for the individual employed compared to being out of work, an element to cover travel to work costs (£433 as suggested in the DWP guidance) has been subtracted. Childcare costs have not been subtracted from the increased earnings, as these can be thought of as a transfer payment from one individual to another within Greater Manchester. We have also ignored the value of any lost leisure time through entering employment, as the majority of individuals are in involuntary employment and as

¹³ "Social Cost-Benefit Analysis Framework", Daniel Fujiwara, DWP, 2010

such the value of this lost leisure time will be compensated for by the improved personal wellbeing achieved through employment (see non monetised benefits below).

Non monetised benefits – Other benefits may accrue from individuals entering employment that have not been monetised. These could include personal wellbeing improvements gained through employment, and the impact on the wider community through increased employment, especially through being role models to others seeking employment.

Deadweight:

- For appraisal – deadweight is valued at 26.3% of the benefits. This is based on an analysis of 16 People and Skills based evaluations carried out by BIS.¹⁴
- For evaluation – outcomes and deadweight will be determined based on individual case history before, during and at the end of the pilot. The number of months worked in the previous 2 year period prior to the pilot intervention should be assessed. Employment outcomes following the intervention should then be tracked and the additionality calculated as the difference in work history prior to and following the intervention.

¹⁴ "BIS Occasional Paper No. 1 – Research to improve the assessment of additionality", 2009

8.1.4 Skills

Key associated government agencies - DWP, BIS, Local Authorities.

Metric – Increase in population qualified to Level 2 and Level 3 skills.

At risk / targeted population – Working age individuals in pilot areas with < level 3 skills.

Calculation – Total numbers based on Census 2001 figures are to be used to estimate the skill levels in the pilot areas. As these figures are not up to date and trackable over the lifetime of the pilots, evaluation should track individual's skill profiles as they are engaged with the programme.

Engagement – Dependant on pilot intervention.

Impact – Dependant on pilot intervention.

Monetisation – Based on %age uplift in wages as identified in DCSF 2007 research findings.¹⁵

Fiscal benefits –£0

Economic benefits – increased annual earnings per individual:

- Increase from < Level2 to Level 2 – 2% wage uplift * median wage in pilot Local Authority
- Increase from Level 2 to Level 3 – 8% wage uplift * median wage in pilot Local Authority

Non economic benefits - £0

Non monetised benefits – Improved wellbeing of individuals.

Deadweight:

- For appraisal CBA, assumed zero deadweight, as individuals in pilot are not likely to be engaged with training providers without support.
- For evaluation CBA, we will use comparator areas to determine deadweight.

¹⁵ The Returns to Qualifications in England: Updating the Evidence Base on Level 2 and Level 3 Vocational Qualifications – Centre for the Economics of Education report for DCSF - 2007

8.2 Early Years

8.2.1 School Readiness

Key associated government agencies - DfE, Local Authorities.

Metric – Improved school readiness (increased number of pupils achieving 78+ points at Early Years Foundation Stage).

At risk / targeted population – 0-4 year old children in pilot areas.

Calculation – Local authority calculations of population of 0-4 year olds in pilot areas.

Engagement – Dependant on pilot intervention.

Impact – Dependant on pilot intervention.

Monetisation – There is assumed to be a reduction in the cost of special education needs provision at school resulting from an increase in school readiness. However, it is not possible to derive a fiscal saving as funding mechanisms for schools are not based on the level of low level special educational needs. There will be long term economic impacts for individual children who have an improved education. This link is currently being researched by the DfE and will be included in later versions of this framework.

Fiscal benefits – £0

Economic benefits – £0. Long term benefits for individuals due to improved educational outcomes currently being researched. However no short/medium benefits are currently included in the analysis.

Non economic benefits - £0

Non monetised benefits – Improved long term educational, employment and earnings potential. Reduction in crime and Anti-Social Behaviour of teenagers.

Deadweight:

- For appraisal CBA – deadweight based on trends in Early Years Foundation Stage (EYFS) scores in the pilot area (assuming the EYFS score is agreed as the metric to monitor outcomes).
- For evaluative CBA – deadweight assessed using comparator area for the pilot.

8.2.2 Parental Mental health

Key associated government agencies - DH, Local Authorities.

Metric – Reduced parental mental health problems (number of individuals with anxiety and depression).

At risk / targeted population – Parents in receipt of Incapacity Benefit for Mental Health reasons. **N.B.** This will underestimate the number of people at risk in pilot areas. Work to understand the levels and costs of mental health problems is underway and will be incorporated in future versions of this framework.

Calculation – Total number of parents of 0-4 year olds in pilot area * Number of adults claiming Incapacity Benefit for Mental Health reasons / Working age population in pilot area

Engagement – Dependant on pilot intervention.

Impact – Dependant on pilot intervention.

Monetisation – Based on Kings Fund report 2008¹⁶ which uses 2007 figures.

	Number of people (£m)	Overall costs			Cost per person		
		Service Costs (£b)	Lost earnings (£b)	Total costs (£b)	Service Costs (£)	Lost earnings (£)	Total costs (£)
Depression	1.24	1.68	5.82	7.5	£1,355	£4,694	£6,048
Anxiety	2.28	1.24	7.7	8.94	£544	£3,377	£3,921
Total	3.52	2.92	13.52	16.44	£830	£3,841	£4,670

Service costs include prescribed drugs, inpatient care, GP costs, other NHS services, supported accommodation and social services costs.

Fiscal benefits – Service cost per person – £830

Economic benefits – Lost earnings per person - £3841

Non economic benefits - £0

Non monetised benefits – Improved wellbeing of individuals.

Deadweight:

- For appraisal – assume zero deadweight as individuals in pilot areas currently do not receive specific support and are therefore unlikely to improve their outcomes.

¹⁶ "Paying the Price - The cost of mental health care in England to 2026" - Kings Fund, 2008

- For evaluation – outcomes and deadweight determined based on individual case history before and during the pilot.

8.2.3 A&E attendance

Key associated government agencies - DH, Local Authorities.

Metric – Reduced avoidable A&E attendance.

At risk / targeted population – Number of 0-4 year olds attending A&E with no significant treatment.

Calculation – Attendances at A&E based on figures provided by GM Commissioning Business Services.

Engagement – Dependant on pilot intervention.

Impact – Dependant on pilot intervention.

Monetisation – Based on the NHS tariff for “No investigation (Referred/Discharged)” – HRG Code VO8

Fiscal benefits – Cost of basic A&E attendance with no investigation – £59

Economic benefits – £0

Non economic benefits - £0

Non monetised benefits – None identified.

Deadweight:

- For appraisal CBA – deadweight should be calculated based on trends in A&E attendance in the pilot area.
- For evaluation CBA – use comparator area to determine deadweight.

8.2.4 Child Poverty

Key associated government agencies - DfE, DWP, Local Authorities

At risk / targeted population – Children in workless families.

Calculation – The most commonly used measure, National Indicator 116, lacks currency, is not available below local authority level and is not precisely equivalent in respect of identifying children living in poverty. The NI 116 measure is defined as the “Proportion of children in families in receipt of out of work benefits, or in receipt of tax credits where their reported income is less than 60% median income”. The Frank Field *Foundation Years* (December 2010) review recommends agreement on a new set of life chances indicators but these are unlikely to be retrospectively applicable to the pilot areas. Therefore, based on discussions with pilots, we propose the following:

- Correlating the historic NI 116 indicator to historic data on the numbers of children living in households claiming council tax benefit (this data is reported at a 3 month time lag at can be provided by local authority teams at LSOA level);
- Ongoing monitoring of the numbers of children living in households claiming council tax benefit;
- Based on this ongoing monitoring, producing current estimates of NI 116, aggregated to pilot level.

Engagement – Dependant on pilot intervention.

Impact – Dependant on pilot intervention.

Monetisation – Based on Joseph Rowntree Foundation reports 2008¹⁷.

Fiscal benefits – Fiscal savings per child removed from poverty per year – £1138.

Economic benefits – £0. Long term impact on earnings not included in current analysis.

Non economic benefits - £0

Non monetised benefits – Improved lifetime opportunities and wellbeing.

Deadweight:

- For appraisal CBA – use trends in child poverty in the pilot area to assess deadweight.
- For evaluation CBA – use comparator area to determine deadweight.

¹⁷ “The cost of not ending child poverty - How we can think about it, how it might be measured, and some evidence”, Joseph Rowntree Foundation 2008

8.2.5 Parental Work Readiness

Key associated government agencies - DWP, DH, HO, MoJ, Local Authorities

Metric – Increased parental work readiness (reduced numbers of parents on benefits).

At risk / targeted population – Parents of 0-4 year olds in receipt of Job Seekers Allowance.

Calculation – Number of parents receiving JSA = number of parents with children aged 0-4 *
Number of JSA claimants / working age population.

Engagement – Dependant on pilot intervention.

Impact – Dependant on pilot intervention. Note that the monetisation figures below are based on entry to employment for a 12 month continuous period. Not all individuals entering employment will stay in a job indefinitely, and therefore an assessment of the length of employment should be included when calculating the impact of an intervention.

Monetisation – Using DWP cost benefit approach as above for Better Life Chances worklessness measures, taking a typical aggregate benefit figure as derived from the Better Life Chances analysis.

Fiscal benefit – Reduced costs of out of work benefits, health and crime services - £9019

Economic benefits – Increased earnings per person - £4800

Non economic benefits - £0

Non monetised benefits – Improved family well being.

Deadweight:

- For appraisal – deadweight is valued at 26.3% of the benefits. This is based on an analysis of 16 People and Skills based evaluations carried out by BIS.¹⁸
- For evaluation – outcomes and deadweight will be determined based on individual case history before, during and at the end of the pilot. The number of months worked in the previous 2 year period prior to the pilot intervention should be assessed. Employment outcomes following the intervention should then be tracked and the additionality calculated as the difference in work history prior to and following the intervention.

¹⁸ "BIS Occasional Paper No. 1 – Research to improve the assessment of additionality", 2009

8.2.6 Domestic Violence

Key associated government agencies - HO, MoJ, Local Authorities

Metric – Reduced incidents of domestic violence.

At risk / targeted population – Parents of 0-4 year olds suffering from domestic violence incidents. **N.B.** Concern has been raised about the quality of data recorded for Domestic Violence.

Calculation – Number of parents at risk of domestic violence = number of parents of 0-4 year olds in pilot area * Number of domestic violence incidents in pilot area / total population of pilot area.

Engagement – Dependant on pilot intervention.

Impact – Dependant on pilot intervention.

Monetisation – Based on Silvia Walby report for the Dti/Women and Equality Unit, 2009¹⁹.

Fiscal benefits – Policing/courts/NHS cost per incident – £17000

Economic benefits – Cost to employers per incident due to absence - £8500

Non economic benefits – Human suffering cost - £44000

Non monetised benefits – None identified.

Deadweight:

- For appraisal CBA – use domestic violence trend data to determine deadweight.
- For evaluation CBA – use comparator area to determine deadweight.

¹⁹ “The Cost of Domestic Violence: Up-date 2009” Silvia Walby, Lancaster University, 2009

8.2.7 Anti-social Behaviour

Key associated government agencies - HO, Local Authorities

Metric – Reduced number of anti-social behaviour incidents

At risk / targeted population – Individuals carrying out antisocial behaviour.

Calculation – Total number of incidents of Anti Social Behaviour as recorded by GM Police, broken down into incidents which result in further actions, and those incidents which do not result in any action being taken.

Engagement – Dependant on pilot intervention.

Impact – Dependant on pilot intervention.

Monetisation – Based on LSE paper 2003²⁰.

Fiscal benefits – Reduced costs of dealing with incidents – no further action £35, further action necessary £500.

Economic benefits – £0

Non economic benefits - £0

Non monetised benefits – Reduced fear of crime; improved desirability of locality.

Deadweight:

- For appraisal CBA – deadweight based on trends in ASB incidents in pilot area.
- For evaluation CBA – deadweight assessed by use of comparator area.

²⁰ “The Economic and Social Costs of Anti-Social Behaviour: A Review”, London School of Economics and Political Science, 2003.

8.2.8 Reduced housing provider costs from evictions

Key associated government agencies - Housing providers, Local Authorities

Metric – Reduced housing evictions.

At risk / targeted population – Families at risk of eviction from social housing.

Calculation – Total number at risk identified by RSLs.

Engagement – Dependant on pilot intervention.

Impact – Dependant on pilot intervention.

Monetisation – Based on Manchester City Council analysis from Eastlands Homes.

Fiscal benefits – £8180. This is broken down into:

- Average level of arrears at the point of an eviction - £4,702.08.
- Average cost to repair property - £2,327 (average for all voids not just those vacated from eviction which can often require more repairs).
- Average rent loss per property whilst repairing/reletting - £534.05.
- Average court costs associated with an eviction - £195.
- Officer time associated with progressing an eviction - £422.

Economic benefits – £0

Non economic benefits - £0

Non monetised benefits – Reduced homelessness.

Deadweight:

- For appraisal CBA – assumed to be zero.
- For evaluation CBA – trends in evictions in comparator area used to determine deadweight.

8.2.9 Children in Care

Key associated government agencies - DfE, Local Authorities

Metric - Reduced numbers of children in care.

At risk / targeted population – Children identified as at risk of safeguarding – e.g. for FIP programmes.

Calculation – Number of children as identified by pilot team.

Engagement – Dependant on pilot intervention.

Impact – Dependant on pilot intervention.

Monetisation – Based on FIP negative costing tool.

Fiscal benefits – Removed cost of safeguarding – £36653 – taken from DfE Negative costing tool and assumed to be suitable for an average cost across Greater Manchester (cost per child in Manchester City Council area directly related to Looked After Children is £38095).

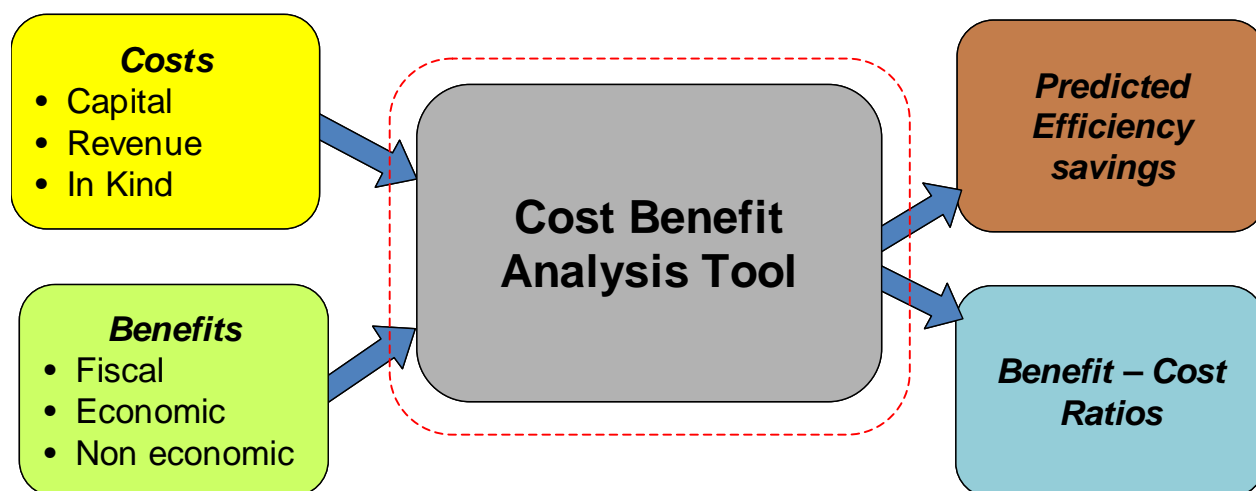
Economic benefits – £0

Non economic benefits - £0

Non monetised benefits – improved wellbeing and future opportunities of children.

Deadweight – analysis of trends in the pilot area of %ages of children who are identified as at risk of safeguarding, who do not then reach the point at which safeguarding occurs.

9 Overall analysis approach



9.1 Discounting

In order to determine the net present value of the costs and benefits for use in calculations of overall efficiency and benefit cost ratios, the values of the costs and benefits require discounting to current prices. A standard discount factor of 3.5% is used in the analysis as stipulated by the HMT Green Book.

9.2 Calculation of Benefit Cost ratios

The approach to using benefit cost ratios is detailed in section 5.1.

The ratio is calculated by the following formula:

$$\text{Benefit Cost Ratio} = \text{Net present value of the benefits} / \text{Net present value of the costs}$$

Pilots with a benefit cost ratio > 1 are economically viable. The higher the ratio, the greater value for money provided by the pilot approach. This allows prioritisation of projects for future scale up.

Benefit cost ratios are calculated for each of the benefit categories – fiscal, economic and non-economic.

9.3 Calculation of net efficiency

Net efficiency measures are described in section 5.2. It is a measure of the overall saving through implementation of the pilot scheme. This efficiency is simply calculated by the following formula:

$$\text{Net present efficiency} = \text{Net present value of the benefits} - \text{net present value of the costs}$$

Assuming this value is positive, this provides justification that the pilot scheme is economically viable.

9.4 Distributional Analysis

Distributional analysis using weighting of benefits to different sectors of society is not carried out by the analysis tool. However, it is useful for practitioners to carry out a high level assessment of who contributes and who benefits from the pilot scheme to understand the winners and losers as a result of implementing the scheme.

10 Further information

10.1 Evaluation Guides

The audience for Greater Manchester's CBA work is diverse. For example:

- Central government AND local government;
- Operational/delivery staff AND strategic/management staff;
- CBA experts AND CBA novices.

In response, we have developed a range of tools and guides which explain our CBA modelling work in a language and manner suited to the intended reader.

This document is aimed at CBA experts who wish to understand what elements are included within Greater Manchester's CBA model and the assumptions we are using to translate inputs into outputs and benefit-cost ratios.

However, this document is of less use to CBA novices or pilot delivery staff, who will be most interested in learning how they can gather and report information in a way that fits with the CBA model described in this document. Accordingly, we have produced 'evaluation guides' and sent these to all pilot teams.

The evaluation guides are a project management tool. They explain how our CBA model works and set out the core and secondary indicators, as listed in chapter 8, that we need pilots to track in order to demonstrate their achievements. For each indicator we explain who collects the data, where it is reported and what pilots need to do to access this information. The evaluation guides also walk pilot teams through the process they need to complete in order to identify their delivery costs.

The evaluation guides are designed to be as user friendly as possible, with suggested work tasks and a worked example of how CBA can be applied to a pilot intervention. The guides also provide links to further sources of information and support.

Copies of the Early Years and Better Life Chances evaluation guides have been posted on our Communities of Practice website.

10.2 Training and dissemination activities

Alongside the evaluation guides, we will be trialling and rolling out various training events and seminars so that a growing number of commissioners and project deliverers across Greater Manchester are able to gather and report data and information in a manner that fits with the GM CBA model.

We will shortly be running a workshop at which we will train research and performance teams from across the 10 GM local authorities to work together to identify, collect and report pilot costs and benefits data.

We also plan to run more advanced training and capacity building activities, such as expert seminars on key issues uncovered by pilot activity – for example, how does transience within pilot area populations affect the sustainability of their impact?

All our work is reported on a Local Government *Community of Practice* website that we have set up. All pilot teams are invited to join this community in order to download training materials, obtain contact details, learn about upcoming conferences and events etc.

10.3 Bibliography

In developing the Greater Manchester cost-benefit model we have called on a wide range of secondary sources. These are listed below:

- *Research to improve the assessment of additionality* – BIS, 2009
- *A guide to Social Return on Investment* – Cabinet office/New Economics Foundation, 2009
- *“Costing A&E Attendances”*, Dr Rod Jones, Healthcare Analysis and Reporting, 2008
- *“The Economic and Social Costs of Anti-Social Behaviour: A Review”*, London School of Economics and Political Science, 2003
- *Green Book*, HM Treasury
- *“Paying the Price - The cost of mental health care in England to 2026”* - Kings Fund, 2008
- *“The Cost of Domestic Violence: Up-date 2009”* Silvia Walby, Lancaster University, 2009
- *“The cost of not ending child poverty - How we can think about it, how it might be measured, and some evidence”*, Joseph Rowntree Foundation, 2008
- *The Returns to Qualifications in England: Updating the Evidence Base on Level 2 and Level 3 Vocational Qualifications* – Centre for the Economics of Education report for DCSF, 2007
- *Total Place Cost Benefit Framework* - Adam Robinson, EG Partnerships Division, DWP, 2010
- *Volunteer Investment and Value Audit* - Volunteering England, 2007

As the scope of our model increases to consider new approaches and new outcomes this list will be updated.

10.4 Model snapshots

On the following pages we provide MS Excel snapshots of the Greater Manchester cost-benefit model. These serve to illustrate how the model translates data on target/at risk populations into gross and net outcomes and, ultimately, net cashable efficiencies at one and five years.

Ardwick Pilot - Ardwick Connect (Adult early intervention)

Costs

Ref	Cost category	Predicted costs (£)	Predicted costs notes/assumptions	Capital/Revenue/ In-kind	Cost period (years)	Total costs before optimism bias included	Optimism bias correction	Total costs (5years)	% Costs Yr1	% Costs Yr2	% Costs Yr3	% Costs Yr4	% Costs Yr5	Costs Yr1	Costs Yr2	Costs Yr3	Costs Yr4	Costs Yr5
C11	Adults services team salaries	£221,042.50	Detailed breakdown from Thomas Britton	Revenue	yearly for 2 years	£ 442,085	0%	£ 442,085	50%	50%				£ 221,043	£ 221,043	£ -	£ -	£ -
C16	Rent, Interpreters, Stationary, IT	£28,691.28	Detailed breakdown from Thomas Britton - Comms and training to be added	Revenue	yearly for 2 years	£ 57,383	5%	£ 60,252	50%	50%				£ 30,126	£ 30,126	£ -	£ -	£ -
C17	Telephone	£2,973.80	Detailed breakdown from Thomas Britton	Revenue	yearly for 2 years	£ 5,948	0%	£ 5,948	50%	50%				£ 2,974	£ 2,974	£ -	£ -	£ -
C18	Transport to visit clients	£963.00	Detailed breakdown from Thomas Britton - Bus/Taxi to be added	Revenue	yearly for 2 years	£ 1,926	5%	£ 2,022	50%	50%				£ 1,011	£ 1,011	£ -	£ -	£ -
C12	Referrals to Work Solutions	0	Included in Work Solutions Sheet															
C13	Referrals to MH services	Not yet estimated																
C14	Referrals to Drug and Alcohol services	Not yet estimated																
C15	Referrals to other specialist care	Not yet estimated																
TOTAL						£ 507,341		£ 510,307						£ 255,153	£ 255,153	£ -	£ -	£ -

Ardwick Pilot - Ardwick Connect (Adult services)
Benefits

Ref.	Outcomes	Benefits	Who does benefit accrue to?	Total population	Pop notes/assumptions	At risk population	At risk pop notes/assumptions	%age engagement (effectiveness of reaching at risk pop)	%age engagement (robustness of assumptions)	%age impact (effectiveness of changing skills / attitudes / behaviours)	%age impact notes / assumptions	Deadweight	Deadweight notes / assumptions	Unit fiscal benefit (£)	Unit economic benefit (£)	Unit non-economic benefit (£)	Monetisation evidence financial year	GDP deflator	Unit cost notes Assumptions	Cost Period (years)	Fiscal total benefits (Year total - £)	Economic total benefits (Year - £)	Non-economic total benefits (Year - £)	Optimism bias correction	Fiscal Monetised benefit (£)	Economic Monetised benefit (£)	Non-economic Monetised benefit (£)	1 year gross cashable efficiency	5 year gross cashable efficiency	
Core																														
B1a	Reduction in % WAP receiving benefits (all types)	Fiscal benefit of moving people off benefits and into work	DWP/HMT	9,430	Working age population (16-64) (2007)	1,860	Number of people who claim JSA16 - DWP PaB 2010 figures in LSOA level															£ 1,087,329	£ -	£ -	-40%	£ 652,397	£ -	£ -	£ -	£ 652,397
						650	100% of JSA claimants	27%	Based on capacity of 100 individuals per year	10%	Assumes overall impact 30% (one third Ardwick Connect, two thirds Work Solutions) - JC	26%	Based on mean deadweight from BS Occupational Paper No 1 - People and both company at sub-regional level	£ 7,800			2007-08	95.71%	DWP Total Phase Cost Benefits gateway costs	12 of results in five year leading to impact in Y2. Remaining impact achieved by year 3 onwards	£ 368,804	£ -	£ -	-40%	£ 221,343	£ -	£ -	£ -	£ 221,343	
						1,210	100% of JSA claimants	27%	Based on capacity of 100 individuals per year	10%	Assumes overall impact 30% (one third Ardwick Connect, two thirds Work Solutions) - JC	26%	Based on mean deadweight from BS Occupational Paper No 1 - People and both company at sub-regional level	£ 8,160			2007-08	95.71%	DWP Total Phase Cost Benefits gateway costs	12 of results in five year leading to impact in Y2. Remaining impact achieved by year 3 onwards	£ 718,425	£ -	£ -	-40%	£ 431,055	£ -	£ -	£ -	£ 431,055	
B1b	Reduction in % WAP receiving benefits (all types)	Improved health outcomes as people move from unemployment into employment	DoH	9,430	Working age population (16-64) (2007)	1,860	Number of people who claim JSA16 - DWP PaB 2010 figures in LSOA level															£ 113,477	£ -	£ -	-40%	£ 68,086	£ -	£ -	£ -	£ 68,086
						650	100% of JSA claimants	27%	Based on capacity of 100 individuals per year	10%	Assumes overall impact 30% (one third Ardwick Connect, two thirds Work Solutions) - JC	26%	Based on mean deadweight from BS Occupational Paper No 1 - People and both company at sub-regional level	£ 508			2007-08	95.71%	DWP Total Phase Cost Benefits gateway costs (2008 figures)	12 of results in five year leading to impact in Y2. Remaining impact achieved by year 3 onwards	£ 24,026	£ -	£ -	-40%	£ 14,416	£ -	£ -	£ -	£ 14,416	
						1,210	100% of JSA claimants	27%	Based on capacity of 100 individuals per year	10%	Assumes overall impact 30% (one third Ardwick Connect, two thirds Work Solutions) - JC	26%	Based on mean deadweight from BS Occupational Paper No 1 - People and both company at sub-regional level	£ 1,016			2007-08	95.71%	DWP Total Phase Cost Benefits gateway costs (2008 figures)	12 of results in five year leading to impact in Y2. Remaining impact achieved by year 3 onwards	£ 89,451	£ -	£ -	-40%	£ 53,671	£ -	£ -	£ -	£ 53,671	
B1c	Reduction in % WAP receiving benefits (all types)	Decreased crime as people move from unemployment into employment	Home Office	9,430	Working age population (16-64) (2007)	1,860	Number of people who claim JSA16 - DWP PaB 2010 figures in LSOA level															£ 7,916	£ 32,024	£ 8,770	-40%	£ 4,749	£ 19,214	£ 5,262	£ -	£ 4,749
						146	16-24 year old males - DWP profile of JSA16/18 claimants supported by the pilot	27%	Based on capacity of 100 individuals per year	10%	Assumes overall impact 30% (one third Ardwick Connect, two thirds Work Solutions) - JC	26%	Based on mean deadweight from BS Occupational Paper No 1 - People and both company at sub-regional level	£ 235	£ 952	£ 261	2009-10	100%	DWP Total Phase Cost Benefits gateway costs - reduction in crime based on conversion in income leading to a reduction in crime (2010 figures)	12 of results in five year leading to impact in Y2. Remaining impact achieved by year 3 onwards	£ 4,223	£ 9,801	£ 2,684	-40%	£ 1,454	£ 5,880	£ 1,610	£ -	£ 1,454	
						109	16-24 year old females - DWP profile of JSA16/18 claimants supported by the pilot	27%	Based on capacity of 100 individuals per year	10%	Assumes overall impact 30% (one third Ardwick Connect, two thirds Work Solutions) - JC	26%	Based on mean deadweight from BS Occupational Paper No 1 - People and both company at sub-regional level	£ 118	£ 474	£ 130	2009-10	100%	DWP Total Phase Cost Benefits gateway costs - reduction in crime based on conversion in income leading to a reduction in crime (2010 figures)	12 of results in five year leading to impact in Y2. Remaining impact achieved by year 3 onwards	£ 894	£ 3,618	£ 991	-40%	£ 537	£ 2,171	£ 594	£ -	£ 537	
						360	26- year old males - DWP profile of JSA16/18 claimants supported by the pilot	27%	Based on capacity of 100 individuals per year	10%	Assumes overall impact 30% (one third Ardwick Connect, two thirds Work Solutions) - JC	26%	Based on mean deadweight from BS Occupational Paper No 1 - People and both company at sub-regional level	£ 57	£ 232	£ 64	2009-10	100%	DWP Total Phase Cost Benefits gateway costs - reduction in crime based on conversion in income leading to a reduction in crime (2010 figures)	12 of results in five year leading to impact in Y2. Remaining impact achieved by year 3 onwards	£ 3,691	£ 14,931	£ 4,089	-40%	£ 2,214	£ 8,958	£ 2,453	£ -	£ 2,214	
						681	26- year old females - DWP profile of JSA16/18 claimants supported by the pilot	27%	Based on capacity of 100 individuals per year	10%	Assumes overall impact 30% (one third Ardwick Connect, two thirds Work Solutions) - JC	26%	Based on mean deadweight from BS Occupational Paper No 1 - People and both company at sub-regional level	£ 19	£ 77	£ 21	2009-10	100%	DWP Total Phase Cost Benefits gateway costs - reduction in crime based on conversion in income leading to a reduction in crime (2010 figures)	12 of results in five year leading to impact in Y2. Remaining impact achieved by year 3 onwards	£ 908	£ 3,675	£ 1,006	-40%	£ 545	£ 2,205	£ 604	£ -	£ 545	
B1d	Reduction in % WAP receiving benefits (all types)	Net increase in income as people move into employment	General Economy	9,430	Working age population (16-64) (2007)	1,860	Number of people who claim JSA16 - DWP PaB 2010 figures in LSOA level															£ -	£ 706,180	£ -	-40%	£ -	£ -	£ -	£ -	£ -
						257	16-24 year olds on any type of benefit within the pilot area - DWP profile of JSA16/18 claimants supported by the pilot	27%	Based on capacity of 100 individuals per year	10%	Assumes overall impact 30% (one third Ardwick Connect, two thirds Work Solutions) - JC	26%	Based on mean deadweight from BS Occupational Paper No 1 - People and both company at sub-regional level	£ 3,900			2009-10	100%	Cost savings on net wages (from benefits) - children costs - reduced costs	12 of results in five year leading to impact in Y2. Remaining impact achieved by year 3 onwards	£ -	£ 69,793	£ -	-40%	£ -	£ 41,876	£ -	£ -	£ -	
						1,603	16-24 year olds on any type of benefit within the pilot area - DWP profile of JSA16/18 claimants supported by the pilot	27%	Based on capacity of 100 individuals per year	10%	Assumes overall impact 30% (one third Ardwick Connect, two thirds Work Solutions) - JC	26%	Based on mean deadweight from BS Occupational Paper No 1 - People and both company at sub-regional level	£ 5,700			2009-10	100%	Cost savings on net wages (from benefits) - children costs - reduced costs	12 of results in five year leading to impact in Y2. Remaining impact achieved by year 3 onwards	£ -	£ 636,387	£ -	-40%	£ -	£ 381,832	£ -	£ -	£ -	
B2	% adults qualified to Level 2+ by 2020	Increase in earnings amongst already employed residents achieving improved qualifications	General economy	9,430	Working age population (16-64) (2007)	4,118	Population without Level 2 qualifications															£ -	£ 114,138	£ -	-40%	£ -	£ 68,483	£ -	£ -	£ -
						3244	Population qualified to Level 2 qualifications	12%	Based on capacity of 100 individuals per year	10%	Assumption that most of impact will be through Work Solutions	0%	To be reviewed	£ 403			2009-10	100%	Wage uplift to men from average of 100% DWP research findings - average wage in Manchester average	12 of results in five year leading to impact in Y2. Remaining impact achieved by year 3 onwards	£ -	£ 54,926	£ -	-40%	£ -	£ 32,961	£ -	£ -	£ -	
						874	Population qualified to Level 2 but not qualified to Level 3	12%	Based on capacity of 100 individuals per year	10%	Assumption that most of impact will be through Work Solutions	0%	To be reviewed	£ 1,613			2009-10	100%	Wage uplift to men from average of 100% DWP research findings - average wage in Manchester average	12 of results in five year leading to impact in Y2. Remaining impact achieved by year 3 onwards	£ -	£ 59,203	£ -	-40%	£ -	£ 35,522	£ -	£ -	£ -	
B3	Reduction in child poverty	Reduced public service costs and increased productivity and tax receipts	Service providers, individuals and society	1870	Number of children living in poverty (DWP - HMCI, 2006 survey) 2006	1870	All children in poverty	27%	Based on capacity of 100 individuals per year	10%	Based every 100 work acquisitions net cost value	26%	Based on mean deadweight from BS Occupational Paper No 1 - People and both company at sub-regional level	£ 15,862	£ 27,719		2009-10	100%	July 2008	Lifetime (60 years)	£ 18,178	£ 8,554	£ -	-40%	£ 10,907	£ 5,133	£ -	£ -	£ 10,907	
Secondary																														
B2	Adult mental health	Reduced health cost of interventions	NHS/Individuals	10848	16-64 population	550	Number of people claiming 16 or more mental health issues	27%	Based on capacity of 100 individuals per year	10%	Assumes 10% of issues are picked up by JC estimates	0%	To be reviewed	£ 830	£ 3,841		2007-08	95.71%	Reduced service costs and cost savings - large health equity (2008)	12 of results in five year leading to impact in Y2. Remaining impact achieved by year 3 onwards	£ 225,222	£ 1,042,809	£ -	-40%	£ 136,133	£ 625,686	£ -	£ -	£ 136,133	
TOTAL																					1,452,122				871,273		0	871,273		

Appendix 1: Additionality summary for Greater Manchester Spatial pilots

	Net Benefits				Net Costs			
	Outcomes	-	Deadweight	x	Unit Benefit of each outcome	Pilot Costs	-	Reference Costs
Predictive CBA	Improved outcomes predicted for cohort in pilot area using assumptions made as to engagement and impact.	-	Forecast predictions for cohort in pilot area with no extra intervention – e.g. trends of number of individuals on benefits	x	Fiscal savings to government agencies, economic benefits to individuals and non-economic benefits per unit change in outcome measure	Pilot costs calculated using bottom up approach identifying capital/revenue and in kind costs.	-	Existing as-is provision costs calculated using a unit cost per case load approach – e.g. JC+ costs across Central Manchester region/number on benefits in the region (N.B. pilots to sense check these numbers based on their knowledge in the pilot areas)
Evaluative CBA	Actual outcomes for cohorts included in the pilot	-	Change in outcome measures as recorded for comparator areas	x	Fiscal savings to government agencies, economic benefits to individuals and non-economic benefits per unit change in outcome measure	Actual recorded costs of delivering the pilot	-	As-is costs as calculated above, taking into account any high level change of approach across GM

Early years example

	Net Benefits				Net Costs			
	Outcomes	-	Deadweight	x	Unit Benefit of each outcome	Pilot Costs	-	Reference Costs
Predictive CBA	Predicted change in numbers of children achieving 78+ points Foundation stage based on number of children and families engaged with pre-school education and parenting classes and the predicted impact of these on Foundation scores.	-	Forecast predictions for Foundation stage scores for cohort in pilot area assuming no extra intervention – Trends based on historic data.	x	Reduced cost of special needs provision in primary schools per school ready child	Predicted costs of outreach, extra pre-school sessions and parenting classes	-	Zero – No current provision for these services
Evaluative CBA	Measured change in 78+ points percentage for pilot area	-	Measured change in 78+ points percentage for comparator area	x	Reduced cost of special needs provision in primary schools per school ready child	Actual recorded costs of outreach, extra pre-school sessions and parenting classes	-	Zero – No current provision for these services

Better Life Chances example

	Net Benefits				Net Costs			
	Outcomes	-	Deadweight	x	Unit Benefit of each outcome	Pilot Costs	-	Reference Costs
Predictive CBA	Predicted number of individuals who enter employment based on assumptions on engagement with and impact of multi-agency approach	-	Predicted number of individuals in pilot cohort who would have found a job anyway – based on job churn in pilot area	x	JSA or IB/ESA payments per individual	Bottom up costs for joint agency approach	-	Unit agency costs per benefit claimant for standard provision x number of claimants in pilot cohort
Evaluative CBA	Number of individuals who enter employment who are involved in the pilot	-	Measured number of individuals finding work in comparator area	x	JSA or IB/ESA payments per individual	Actual recorded costs of joint agency approach	-	As above

Appendix 2 – Impact of employment on crime

In order to estimate the impact of employment on crime, an understanding of the increase in income achieved through employment is needed. An analysis has been undertaken to calculate the likely wage when individuals enter employment as a result of interventions delivered through the pilots.

Total off flows from JSA have been correlated with average wages for each occupation type for Greater Manchester (see table A1 below).

claimant off-flows - occupation, age and duration				
ONS Crown Copyright Reserved [from Nomis on 23 December 2010]				
date	November 2010			
sex	Total			
item name	sought occupation			
age	Total			
duration	Total			
Occupation	Greater Manchester Off-flows	Greater Manchester average wage	Total GM weekly income per occupation type	
00 : Occupation unknown	255	487.6	124338	
11 : Corporate Managers	470	870.5	409135	
12 : Managers and Proprietors in Agriculture and Services	120	590.1	70812	
21 : Science and Technology Professionals	205	742.1	152130.5	
22 : Health Professionals	15	1158.8	17382	
23 : Teaching and Research Professionals	200	613.8	122760	
24 : Business and Public Service Professionals	160	744.8	119168	
31 : Science and Technology Associate Professionals	220	528.4	116248	
32 : Health and Social Welfare Associate Professionals	140	488.7	68418	
33 : Protective Service Occupations	20	669	13380	
34 : Culture, Media and Sports Occupations	340	526.1	178874	
35 : Business and Public Service Associate Professionals	285	585.2	166782	
41 : Administrative Occupations	1,355	346.3	469236.5	
42 : Secretarial and Related Occupations	170	302.8	51476	
51 : Skilled Agricultural Trades	135	342.7	46264.5	
52 : Skilled Metal and Electronic Trades	550	537.7	295735	
53 : Skilled Construction and Building Trades	805	483.7	389378.5	
54 : Textiles, Printing and Other Skilled Trades	205	322.2	66051	
61 : Caring Personal Service Occupations	775	254.7	197392.5	
62 : Leisure and Other Personal Service Occupations	255	282.9	72139.5	
71 : Sales Occupations	3,050	195.7	596885	
72 : Customer Service Occupations	480	283.1	135888	
81 : Process, Plant and Machine Operatives	500	427.7	213850	
82 : Transport and Mobile Machine Drivers and Operatives	810	424.5	343845	
91 : Elementary Trades, Plant and Storage Related Occupations	3,560	340.1	1210756	
92 : Elementary Administration and Service Occupations	1,550	191.5	296825	
Column Total	16,620		5945150	
data rounded to nearest 5.				

Table A1

Using these figures and making the assumption that a new starter would earn 75% of the average wage for the occupation type, an average gross yearly income of £13,950 has been calculated.

After tax this is equivalent to a net income of £11,550.

Allowance has then been taken for the costs of travel to work £443 as calculated in the DWP Cost Benefit Analysis Framework.

For the purposes of analysis it has been assumed that the previous income from benefits, including JSA, housing benefit and council tax benefit is equivalent to the fiscal benefit saving calculated as part of the DWP Total Place Cost Benefit guidance - £7,800.

The net increase in income is therefore the new income minus the travel costs and the previous income from benefits - £3,307 or an increase in income of 48%.

Using the DWP cost benefit framework assumptions, this increase in income would result in a reduction in crime of 29% ($0.6 \times 48\%$).

To calculate the fiscal, economic and non-economic savings from the reduction in crime the Home Office Economic and Social costs of crime data has been used following the approach set out in the DWP cost benefit framework, but excluding all Criminal Justice system costs except policing.

The analysis is shown below in Tables A2 and A3:

Fiscal, Economic and Non-economic costs of crime														
Crime against individuals and households														
Taken from Home Office "The economic and social costs of crime against individuals and households 2003/04"														
Figures in 2003 prices														
Average cost per crime	Defensive Expenditure	Insurance Administration	Physical and Emotional Impact on Direct Victims	Value of Property Stolen	Property Damaged/Destroyed	Property Recovered	Victim Services	Lost Output	Health Services	Police activity	Other Criminal Justice System	Total		
	Economic	Economic	Non-economic	Economic	Economic	Economic	Not included	Economic	Fiscal	Fiscal	Not included			
Robbery	£ -	£ 21	£ 3,048	£ 109	£ 12	£ 19	£ 16	£ 1,011	£ 483	£ 878	£ 1,723	£ 7,282		
Burglary in a dwelling	£ 221	£ 177	£ 646	£ 846	£ 187	£ 22	£ 11	£ 64	£ -	£ 576	£ 561	£ 3,267		
Theft	£ 59	£ 52	£ 192	£ 281	£ 69	£ 36	£ 1	£ 10	£ -	£ 134	£ 83	£ 845		
Totals cost of crime/annum	Number of incidents	Defensive Expenditure	Insurance Administration	Physical and Emotional Impact on Direct Victims	Value of Property Stolen	Property Damaged/Destroyed	Property Recovered	Victim Services	Lost Output	Health Services	Police activity	Other Criminal Justice System	Total	%age split of police to CJS
		Economic	Economic	Non-economic	Economic	Economic	Economic	Not included	Economic	Fiscal	Fiscal	Not included		
Robbery	335000	£ -	£ 7,035,000	£ 1,021,080,000	£ 36,515,000	£ 4,020,000	£ 6,365,000	£ 5,360,000	£ 338,685,000	£ 161,805,000	£ 294,130,000	£ 577,205,000	£ 2,439,470,000	34%
Burglary in a dwelling	880000	£ 194,480,000	£ 155,760,000	£ 568,480,000	£ 744,480,000	£ 164,560,000	£ 19,360,000	£ 9,680,000	£ 56,320,000	£ -	£ 506,880,000	£ 493,680,000	£ 2,874,960,000	51%
Theft	4968000	£ 293,112,000	£ 258,336,000	£ 953,856,000	£ 1,396,008,000	£ 342,792,000	£ 178,848,000	£ 4,968,000	£ 49,680,000	£ -	£ 665,712,000	£ 412,344,000	£ 4,197,960,000	62%
Total		£ 487,592,000	£ 421,131,000	£ 2,543,416,000	£ 2,177,003,000	£ 511,372,000	£ 204,573,000	£ 20,008,000	£ 444,685,000	£ 161,805,000	£ 1,466,722,000	£ 1,483,229,000	£ 9,512,390,000	50%
Crime against commercial and public sector														
Taken from Home Office Research Study 217 "The economic and social costs of crime" - Brand and Price, 2000														
Figures in 2000 prices														
Note - police costs reported in 2000 report, were based on a standard percentage of the total CJS costs across all crime types. For this analysis, the police costs have been assessed using the proportional split for the crime types calculated for the 2003 crimes against individuals and households above.														
Totals cost of crime/annum	Defensive Expenditure	Insurance Administration	Physical and Emotional Impact on Direct Victims	Value of Property Stolen/damaged	Victim Services	Lost Output	Health Services	Total Criminal Justice system	%age Police (based on households and individuals)	Police activity	Other Criminal Justice System	Total		
	Economic	Economic	Non-economic	Economic	Not included	Economic	Fiscal			Fiscal	Not included			
Burglary not in a dwelling	£ 970,000,000	£ 50,000,000	£ -	£ 1,100,000,000	£ -	£ 40,000,000	£ -	£ 470,000,000	51%	£ 238,100,264	£ 231,899,736	£ 3,000,000,001		
Theft from a shop	£ 1,100,000,000	£ -	£ -	£ 1,500,000,000	£ -	£ -	£ -	£ 620,000,000	62%	£ 382,857,143	£ 237,142,857	£ 3,840,000,001		
Theft of commercial vehicle	£ 120,000,000	£ 50,000,000	£ -	£ 160,000,000	£ -	£ 2,000,000	£ -	£ 2,000,000	62%	£ 1,235,023	£ 764,977	£ 336,000,001		
Theft from commercial vehicle	£ 10,000,000	£ 6,000,000	£ -	£ 20,000,000	£ -	£ 1,000,000	£ -	£ 2,000,000	62%	£ 1,235,023	£ 764,977	£ 41,000,001		
Robbery or till snatch	£ 90,000,000	£ 7,000,000	£ 40,000,000	£ 110,000,000	£ -	£ 8,000,000	£ 3,000,000	£ 100,000,000	34%	£ 33,756,248	£ 66,243,752	£ 458,000,000		
Total	£ 2,190,000,000	£ 113,000,000	£ 40,000,000	£ 2,890,000,000	£ -	£ 51,000,000	£ 3,000,000	£ 1,194,000,000		£ 657,183,700	£ 536,816,300	£ 7,176,000,002		

Table A2

	Fiscal	Economic	Non-economic	Total	Notes
Property crime costs (individuals and households) 2003 prices	£ 1,628,527,000	£ 3,837,210,000	£ 2,543,416,000	£ 8,009,153,000	
Property crime costs (individuals and households) 2010 prices	£ 1,946,276,024	£ 4,585,904,821	£ 3,039,673,017	£ 9,571,853,861	GDP inflator = 100/83.674
Property crime costs (commercial and public sector) 2000 prices	£ 660,183,700	£ 5,244,000,000	£ 40,000,000	£ 5,944,183,700	
Property crime costs (commercial and public sector) 2010 prices	£ 843,555,877	£ 6,700,569,881	£ 51,110,373	£ 7,595,236,130	GDP inflator = 100/78.262
Total property crime 2010 prices	£ 2,789,831,901	£ 11,286,474,702	£ 3,090,783,390	£ 17,167,089,992	
Cost of property crime applicable to unemployed	£ 1,422,814,269	£ 5,756,102,098	£ 1,576,299,529	£ 8,755,215,896	51% of property crime committed by unemployed/inactive
Cost of property crime applicable to unemployed men	£ 1,223,620,272	£ 4,950,247,804	£ 1,355,617,595	£ 7,529,485,670	86% of arrests were men
Cost of property crime applicable to unemployed women	£ 199,193,998	£ 805,854,294	£ 220,681,934	£ 1,225,730,225	
Cost of property crime applicable to unemployed men aged 17-24	£ 489,448,109	£ 1,980,099,122	£ 542,247,038	£ 3,011,794,268	40% of crime committed by under 25s
Cost of property crime applicable to unemployed men aged 25+	£ 734,172,163	£ 2,970,148,683	£ 813,370,557	£ 4,517,691,402	
Cost of property crime applicable to unemployed women aged 17-24	£ 79,677,599	£ 322,341,717	£ 88,272,774	£ 490,292,090	
Cost of property crime applicable to unemployed women aged 25+	£ 119,516,399	£ 483,512,576	£ 132,409,160	£ 735,438,135	
Cost of crime per male programme participant aged 17-24	£ 816	£ 3,300	£ 904	£ 5,020	0.6 million men aged 17-24 on working age benefits
Cost of crime per male programme participant aged 25+	£ 408	£ 1,650	£ 452	£ 2,510	1.8 million men aged 25+ on working age benefits
Cost of crime per female programme participant aged 17-24	£ 199	£ 806	£ 221	£ 1,226	0.4 million women aged 17-24 on working age benefits
Cost of crime per female programme participant aged 25+	£ 66	£ 269	£ 74	£ 409	1.8 million women aged 25+ on working age benefits
	Fiscal	Economic	Non-economic		
Benefit from one male aged 17-24 entering employment	£ 235	£ 952	£ 261	£ 1,448	29% reduction in the cost of crime
Benefit from one male aged 25+ entering employment	£ 118	£ 476	£ 130	£ 724	See Income Increase sheet for details
Benefit from one female aged 17-24 entering employment	£ 57	£ 232	£ 64	£ 354	
Benefit from one female aged 25+ entering employment	£ 19	£ 77	£ 21	£ 118	

Table A3