DEPARTMENT OF HEALTH AND HUMAN SERVICES

ADMINISTRATION FOR CHILDREN AND FAMILIES

COMPANION GUIDE 3:

COST/BENEFIT ANALYSIS ILLUSTRATED FOR CHILD SUPPORT ENFORCEMENT SYSTEMS

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TABLE OF CONTENTS

TABLE OF FIGURES

1 Introduction and Purpose

The Administration for Children and Families (ACF) has a continuing interest in helping States to improve the quality and usefulness of the plans and studies that support their development of public benefit information systems. To this end, ACF has published the *Feasibility, Alternatives, and Cost/Benefit Analysis Guide* and the *Companion Guide: Cost/Benefit Analysis Illustrated* (for generic public benefit systems), sponsored State systems planning working groups, developed a set of model spreadsheet templates for cost/benefit analysis, and prepared cost/benefit training materials.

To augment these efforts, and especially to respond to requests from State personnel, the Office of Child Support Enforcement (OCSE) of the ACF has developed this *Companion Guide 3: Cost/Benefit Analysis Illustrated for Child Support Enforcement Systems*. This optional guidance responds to the States' requests for more program-specific guidance.

This *Companion Guide 3* covers three areas:

- Chapter 1: Introduction and Purpose. This introductory chapter provides general information to supplement the information presented in the Feasibility, Alternatives, and Cost/Benefit Analysis Guide and the Companion Guide: Cost/Benefit Analysis Illustrated.

- Chapter 2 and 3: APD Documentation. This chapter provides an example of the part of the Implementation Advance Planning Document (APD) that addresses cost/benefit analysis. This example illustrates the summary or key information that ACF considers important. Among the most important factors are:

  - Clear establishment of a baseline for later cost/benefit measurement and reporting. (Chapter 2)
  - Detailed descriptions of benefits (Chapter 3)

  This section in no way implies a standard, approach, or format that States must use. It is intended to illustrate a level of detail sufficient for ACF's purposes.

- Chapter 4: APDU Documentation. This chapter is an example of a cost/benefit measurement report. It is written as though reporting in the third year of the project described in Chapter 2 and 3. This clarifies the relationship between the planning stage studies and the post-implementation measurement and reporting phase.

This *Companion Guide 3* is a supplement, not a replacement, for the prior guides. The *Feasibility, Alternatives, and Cost/Benefit Analysis Guide* remains the definitive ACF reference on the subject of cost/benefit analysis to support State public benefit information systems advanced planning. The *Companion Guide: Cost/Benefit Analysis Illustrated*, which provides a generic example of a cost/benefit analysis, also addresses material not duplicated in this guide, such as definition and clarification of terms, the importance of consistency, use of more sophisticated techniques, level of effort, compilation of data, development of benefits in general, and sensitivity analysis. The *Companion Guide* also illustrates the difference between State cost/benefit documentation and that submitted to ACF.

CHILD SUPPORT ENFORCEMENT BENEFITS IN PERSPECTIVE

Cost/benefit analysis must prove that the projected benefits are sufficient to warrant the expenditure for the system project. This implies that the justification will be based on measurable benefits and that the outlay for those benefits is reasonable. It is a two-step process that answers two questions:

- What am I buying in terms of outcomes?
- Is the cost of achieving those outcomes reasonable?

The most common and straightforward approach to justifying an acquisition is to project that the dollar value of the benefits for the proposed acquisition will exceed the costs. In other words, the system will breakeven. Such justifications can normally be approved at face value, so long as the stated benefits and costs appear reasonable.

Since Child Support Enforcement systems generate substantial revenues in the form of collections, the focus of our benefit analysis is on increased collections. All increased collections above a norm from a CSE system can be considered a benefit. We believe this is the most practical way in which CSE systems will justify their expense and achieve breakeven.

Other quantitative benefits that an effective, economical, and efficient child support system might deliver, would be:

- Reduced costs of CSE system development
- Avoided costs
- Reduced costs in other programs
- Social net benefit

The onus is on the States to present a compelling case that establishes that the cost of the investment is worth the projected outcomes. In addition, because States must report actual benefits, the onus is also on States to implement systems that achieve the projected outcomes.

DEVELOPING BENEFITS

Child Support Enforcement agencies generate collections (income) that offset (to a degree) the costs of the government's programs to collect or provide welfare support. By implementing improved information systems, we can increase collections, thereby achieving a net gain for the government, and by extension, for the constituency government serves.

However, public sector cost/benefit analysis is also concerned with net program effect. The government does not charge (with minor exception) for its services: public services and benefits are required by law to be provided. Therefore, the government's obligation is not necessarily to maximize cost-recovery, but to make cost-effective expenditure as part of the delivery of benefits.

ACF views cost/benefit analysis as serving four fundamental and equally important needs — to:

- Evaluate alternative mixes of financial, human, and information resources,
- Support wise economic decisions on proposed information system investments,
- Establish a performance baseline against which to measure the success of the systems project, and
- Provide fundamental management tools to maximize benefits and minimize costs.

Therefore, cost/benefit analysis is a process of developing economic and performance indicators that serve as important management tools for management decision-making. These economic indicators reflect how the distribution of costs changes - so that the net effect on the program can be evaluated. The questions are:

- Will the system result in measurable, sustainable improvements to current collections, such that the increases "pay for" the costs of the enhanced automation,
- Are there additional savings that can be achieved from other categories of cost that can help "pay for" the costs of developing the enhanced automation, and
- Will the system project result in intangible improvements, however difficult to quantify, over current operations?

Public sector cost/benefit analysis is not an accounting process. When benefits equal costs, the analysis has not proven the system will cost nothing. Rather, it reasonably shown that the organization will remain within the overall, projected program budget - and that the projected increased benefits are sufficient to warrant the overall expenditure for the system project.

CATEGORIZING BENEFITS

Benefits may be categorized into two broad areas: qualitative (intangible) and quantitative (tangible) benefits. *The Feasibility, Alternatives, and Cost/Benefit Analysis Guide* addresses the importance of qualitative benefits:

> "Despite the preponderant weight given quantified benefits, qualitative benefits are also important in the evaluation of alternatives, gaining weight as the cost differential between alternatives narrows."

That Guide also makes clear that qualitative benefits can have cost implications, but may be difficult or impossible to quantify. Examples might include enhanced compatibility between State human services systems, improved delivery of public assistance, improved management and delivery of information, and improved data security. Quantitative benefits, however, are at the heart of the cost/benefit analysis. Quantitative benefits may be defined on the basis of dollars or by other measures, such as time, percentages, caseloads, service delivery, and so forth.

The importance of the cost/benefit analysis is not only to prove that a course of action is cost-beneficial, but also to establish a baseline for performance measurement that includes such intangibles as enhanced

customer service, decreased training time, and improved usability and utility of the system. Accordingly, ACF recommends that States develop both qualitative and quantitative cost/benefit analyses.

STRUCTURED APPROACHES TO IDENTIFY BENEFITS

When first faced with the task of identifying benefits, many are overwhelmed. It may seem impossible to identify and quantify the millions of dollars of benefits needed to offset the costs of developing and acquiring a new information system. What is needed is a structured approach or a framework within which to analyze the effect of the systems project. This section suggests some frameworks for developing benefits that can be used separately or in combination. These are only suggested approaches. The State may use any structured methodology it wishes to develop a benefits profile.

Approach 1 - Generic Benefit Examples

The *Feasibility, Alternatives, and Cost/Benefit Analysis Guide* provides a number of examples of quantitative and qualitative benefits, categorized as cost/resource, functional/programmatic, technical (system), legislative, and socio-political. An analyst could use this list as a starting point, identifying benefits that are applicable to his system. The analyst would then select the most critical, in terms of program or dollar impact, to develop in the cost/benefit analysis. The potential list of benefits to be considered is presented in the following chart:

Figure 1-1 Generic Benefits

QUANTITATIVE	QUALITATIVE
COST / RESOURCE	**LEGISLATIVE/SOCIO-POLITICAL**
• Reduced Costs • Controlled Costs • Reduced Staffing • Improved Staffing Utilization • Increased Productivity • Fewer Manual Functions • Increased Resources	• Integrated Benefits Automation • Improved Public Assistance • Increased Worker Satisfaction
FUNCTIONAL/PROGRAMMATIC	
• Increased Caseload Capacity • Increased Collections • Improved Management Information • Improved Controls • Interface / Matching • Less Data Redundancy	• Improved Management Information • Improved Controls • Interface / Matching • Enhanced User Acceptance
TECHNICAL	
• Faster Record Retrieval • More Timely Reporting • Reduced Operating Costs • Improved Access • Improved Security • Increased Automation • Greater Network Bandwidth • Reduced Training Time • Reduced Maintenance Costs	• More Timely Reporting • Expanded Capability/Flexibility • Improved Access • Improved Security • Increased Automation • Improved Usability • Greater Maintainability • Broader Technical Support

Approach 2 - CSE System Functions

Another framework is to examine the benefits of a proposed information system from the perspective of functional areas of a Child Support Enforcement program:

- Case Initiation
- Locate
- Establishment
- Case Management
- Enforcement
- Financial Management
- Reporting
- Security and Privacy

Using this framework, the analyst would assess these functional areas, their domains (affected populations), and the effects or outcomes of the project, both quantitative and qualitative.

For example, an analyst might consider the effect of the system on the Case Management function by examining its sub-functions and developing the following chart:

Figure 1-2 Case Management Benefit Analysis

EFFECT	DOMAIN	BENEFIT	TYPE
Cases moved between functions more quickly	Client	Payment received sooner and more reliably	Qualitative (for CSE Program)
	CSE Program	Increased revenue	Quantitative
More accurate and complete information in the case record	Client	Improved service	Qualitative
	Caseworker	Improved morale	Qualitative
		Increased efficiency	Quantitative
		Reduced staff turnover	Quantitative
	CSE Program	Increased revenue	Quantitative
Better status notification for the caseworker	Client	Improved service	Qualitative
	Caseworker	Improved morale	Qualitative
		Increased efficiency	Quantitative
		Reduced staff turnover	Quantitative
More timely case closure.	Caseworker	Increased efficiency	Quantitative
	CSE Program	Avoid costs of maintaining dead cases	Quantitative

An analyst may identify additional functional areas that could be evaluated. Notice that the analysis requires a number of steps within the framework:

1) Identify functional areas.
2) Analyze effects or outcomes of the system project on functional areas.
3) Analyze effects or outcomes of the system project on affected populations.
4) Determine the benefit of the effects or outcomes.
5) Decide whether the benefit is qualitative or quantitative (by dollars or other measures).
6) Decide how to value or measure the benefit.

Using this analytical framework, a State analyst might identify anticipated benefits for further evaluation. Although the initial list developed by the analyst might be quite lengthy, the State would select only the most critical, in terms of program or dollar impact, to develop in the cost/benefit analysis.

Approach 3 - CSE PRWORA Enhancements

This approach calls for evaluating the functionality introduced into the system requirements by changes for PRWORA. The benefits are evaluated for each of these changes using a methodology similar to Approach 2. The following table contains PRWORA enhancements that might generate benefits:

Figure 1-3 PRWORA Enhancement Analysis

FUNCTION	DOMAIN	BENEFIT	TYPE
Interstate Referrals through CSENet	CSE Program	Increased revenue	Quantitative
Family Violence Indicator	Client	Public Safety	Qualitative
Federal Parent Locator Service	CSE Program	Increased revenue	Quantitative
Federal Case Registry	CSE Program	Increased revenue	Quantitative
National Directory of New Hires	CSE Program	Increased revenue	Quantitative
Financial Institution Data Match	CSE Program	Increased revenue	Quantitative
Multi-state Financial Institution Data Match	CSE Program	Increased revenue	Quantitative
State Licensing Agencies and License Suspension	CSE Program	Increased revenue	Quantitative
Paternity Establishment	CSE Program	Increased revenue	Quantitative
Case Closure	CSE Program	Avoid costs of maintaining dead cases	Quantitative
Interstate Referral Guide	CSE Program	Increased Automation	Qualitative
Income Withholding	CSE Program	Increased Revenue	Quantitative
EFT/EDI	CSE Program	Cost Savings	Quantitative
Federal Tax Refund Offset	CSE Program	Increased revenue	Quantitative
Interstate Liens and Bonds	CSE Program	Increased revenue	Quantitative
Credit Reporting Agencies	CSE Program	Increased revenue	Quantitative
Passport Denial	CSE Program	Increased revenue	Quantitative
Federal Administrative Offset	CSE Program	Increased revenue	Quantitative
Distribution	CSE Program	Meet Federal Requirements	Qualitative
OCSE34-A reporting	CSE Program	Improved Reporting	Qualitative
Paternity Establishment Percentage reporting	CSE Program	Improved Reporting	Qualitative

The analyst should assess these areas and their quantitative and qualitative effects on the program and project.

For example, an analyst might consider the effect of implementing Financial Institution Data Match on revenue collection. Estimates for revenue increases using this enforcement remedy would be based on the State's current caseload, the current arrears balance, potential cooperating financial institutions, the degree of commitment of management, and legal ramifications. This analysis could then be compared with the experiences of other States employing this or a similar collection method.

Using this analytical framework, a State analyst might identify anticipated benefits for further evaluation. Although, as in Approach 2, the initial list developed by the analyst might be quite lengthy, the State would select only the most critical, in terms of program or dollar impact, to more fully develop in the cost/benefit analysis.

Approach 4 - Benefits to Other Programs

This approach calls for evaluating the effect that enhancements to the State CSE Systems can have on other State and Federal programs. CSE enhancement can often produce benefits in other programs. This approach requires thorough analysis by the State to justify the benefits.

The research paper *Child Support Enforcement Cost Avoidance: Evidence from Iowa* (Garasky, Keng, Jensen - Iowa State University, March 1999*),* for example, shows that Iowa's CSE program results in lower State and Federal spending in several programs. The authors estimate that, in 1995, every dollar spent on the CSE program in Iowa resulted in $1.32 in savings to TANF, $0.14 in savings to Food Stamps, and $0.51 in savings to Medicaid. Further analysis could be done to assign a portion of this benefit to CSE system automation.

Several State Employment Security Agencies (SESAs), in partnership with OCSE, have developed a Unemployment Insurance Cross Match project, which use New Hire W-4 records to identify unemployment insurance overpayments. (*OCSE Fact Sheet* - February 15,2000). These overpayments are then recovered by the State. If New Hire reporting is automated, part of this income may be considered a benefit due to CSE automation, since New Hire reporting was mandated by PRWORA.

REINVESTMENT

An important element of benefit analysis involves the concept of reinvestment. While automation often results in productivity improvements, care must be taken in how to place a value on the improvement. For example, productivity improvements resulting in a reduction of staff hours can be valued by avoiding future hires, or redirecting the staff hours to other functions which carry their own values. Historically, CSE programs have not reduced their staff.

Action should not be taken to reduce current or future staffing based on the projected benefit until the benefit is measured and confirmed. Precipitous action could have a negative effect on the program. However, in many cases, the redirection and rededication of available resources due to the time savings and streamlining achieved through automation can often result in ever higher benefits being realized. One example is in the automation of the child support "Locate" function, freeing those resources to be employed on more difficult, labor intensive work such as paternity and court order establishment.

APPLYING VALUES OR MEASURES TO BENEFITS

Once benefits have been identified, the State faces the difficult task of assigning values or measures to the benefits. Chapters 2 and 3 give several examples assigning revenue increases to a specific system enhancement. These chapters also provide examples of estimating revenue increases, mostly based on comparisons with the revenues of CSE systems of other States. For cost reductions and cost avoidance, perhaps the easiest way to determine where savings or improvements can be achieved is to take a close look at the budget and management reports - and to visit the accounting department.

Generally speaking, benefits may be derived from both the systems or program area. Examples of systems-related quantitative benefits include future cost savings by avoiding such expenses as scheduled equipment upgrades, charge-back expenses for central data processing staffs, contractor support fees, and telecommunications fees. Examples of benefits derived from more current technology might be

avoidance of courier fees, long distance tolls, postage, printing and large square-footage fees for housing systems and staff. Examples follow:

Reductions in system-related building overhead

Although computer systems have expanded in capabilities and price/performance, their environmental (overhead) requirements have decreased. For example, processor and storage capacity that recently required thousands of square feet of reinforced, raised floor, water cooling, and special air-conditioning can now be located in a much smaller area, in a normal office environment.

The savings in lease costs, utilities, and special environmental systems are quantifiable. The current annual costs for building and utilities overhead should be available from the operations support or budget staff. Using this and information available from the marketplace (for space and energy costs for new technology), the power and environmental expenses can be compared.

Reductions in telephone, postage, and printing cost

If the new system will reduce the number of telephone calls made or the number of letters, memoranda, or other documents printed and mailed by caseworkers, then a dollar value for this benefit can be developed. The dollar value can be estimated by assessing the effects of automation in other offices, then projecting a percentage reduction in current costs for these services.

For example, a program is currently paying $1,000,000 per year for telephone, printing, postage, and delivery costs. The agency has information from a pilot study and from contact with a recently automated office that access to electronic communication will reduce communication costs 15% in the first year and 25% per year after that as the system is implemented statewide. A five-year benefit of $1,150,000 is projected. This benefit can be monitored through implementation by reporting the actual expenditures in these categories.

Even more significant than system benefits are benefits derived from program-related productivity improvements, because large staffs and expenditures are involved. However, a common approach is to claim the productivity improvement as direct cost savings. It is not, unless staffing will be reduced an equivalent percentage. If staffing is not reduced, analysts need to determine the secondary effect. How will staff use the time saved by automation? Can a value be placed of the results of their new efforts?

Other program-related examples follow:

Reduced staff turnover

Frequently, high rates of staff turnover are directly related to causes such as obsolete equipment, limited technological support, and excessive administrative overhead — causes that the project may be designed to eliminate. The human resources office should have information regarding historic levels of support staff turnover, and may have conducted exit interviews to identify the reasons that staffs have left. There may be evidence to suggest that more effective technological resources will reduce this turnover.

If this is the case, the human resources office and program management should be able to provide reasonable estimates of the cost of replacing an employee. The costs would be derived from the expenses of recruiting, management time dedicated to interviewing and reference checking, training, and lost productivity. The total of these costs, for the percent of staff who left for reasons related to the obsolete system, is reasonably a benefit of a new support system. Staff turnover can be monitored during implementation and operation of the new system, to determine the actual value of this projected benefit.

Improved ability to respond to program or legislative changes

CSE programs tend to be highly dynamic, as evidenced by welfare reform programs currently underway at the State and Federal level. Changes in procedure, forms, or reporting may be mandated at short notice by legislative changes or executive order. The costs of making such changes can be substantial; they typically involve system staff to modify or enhance the system, as well as program staff to implement the changes. Significant changes may require extensive retraining and may involve the production of new forms and instructions.

The historic costs of accommodating such changes should be available (or estimable) as hours of effort by various staff categories. Hours can be turned into dollar costs by applying average loaded hourly rates. Note that in order to project a benefit in this area, it will be necessary to show that specific features of the design and implementation of the new system will result in improved flexibility or ability to respond to necessary changes or enhancements.

The examples used in Chapter 2 and 3 of this guide are specific to the CSE program. Other examples of CSE program benefits were cited in this chapter. In addition, the *Companion Guide: Cost/Benefit Analysis Illustrated* cites other generic types of program and system benefits. States should view these examples of benefits as representative, not comprehensive. States should also keep in mind that statistics and studies cited in the examples in Chapter's 2, 3 and 4 that are not attributed are fictional and used here for illustrative purposes only.

SUMMARY

Several key points were made in this chapter. When developing cost/benefit analyses for CSE systems, States should:

- Develop both qualitative and quantitative benefits
- Use dollar and other quantitative measures for benefits to establish the performance baseline and goals
- Justify acquisitions on the basis of dollar-quantifiable benefits where possible
- Develop values or measures for program improvements wherever possible
- Emphasize not only cost reductions, but also program improvements
- Identify a broad list of potential benefits, but develop values or measures for only the most critical, in terms of program or dollar impact
- Evaluate and document program benefit due to reinvested time savings.

2 Cost Benefit Analysis for Advance Planning Documents

INTRODUCTION

This chapter provides examples of the portion of an Implementation Advance Planning Document (APD) that addresses cost/benefit analysis for a Child Support Enforcement system. These examples illustrate the summary or key information that ACF considers important. Among the most important factors are detailed descriptions of benefits and clear establishment of a baseline for later cost/benefit measurement and reporting. This guide does not mandate a format. It does, however, illustrate a sufficient level of detail for ACF's purposes.

OCSE-AT-99-03 Addendum to the State Systems APD Guide for Child Support Enforcement Systems describes when a cost-benefit analysis must be performed:

> *"Federal regulations at 45 CFR 95.605 require that each State submit an annual report comparing the estimated cost benefits in its approved APD to actual cost benefits to date. Therefore, States must measure system costs and benefits throughout the system development effort, and begin reporting actual system costs and benefits as soon as any part of the system becomes operational (i.e., enters the pilot phase). This Cost/Benefit Analysis must be submitted as a part of the State's Annual APDU. The requirement to submit an annual Cost/Benefit Analysis continues until HHS/ACF determines that projected benefits or cost savings have been achieved. This should occur within two to five years after implementation.*
>
> *"Each State needs to assess the feasibility of enhancing their existing system to meet the statutory and regulatory requirements of PRWORA. Any State, which determines that its existing system cannot be modified to meet the new PRWORA requirements, must transfer or develop a new system. States concluding that it would be better to replace their existing system must conduct an IV&V assessment in order to justify that decision to the satisfaction of OCSE.*
>
> *"OCSE AT 96-10 offers two options for States planning to meet PRWORA requirements by enhancing their existing CSES:*
>
> *1. The State may treat the addition of the new PRWORA enhancements as a continuation of the existing CSES project and include them in an update to its FSA of 1988 APD; or*
>
> *2. The State can submit an Implementation APD to address the PRWORA enhancements.*
>
> *"States that choose to include the PRWORA requirements in their existing APD should incorporate the costs and benefits associated with the PRWORA enhancements in their existing Cost/Benefit Analysis. However, States that choose to address the PRWORA enhancements in a new Implementation APD must develop a separate and distinct Cost/Benefit Analysis for the PRWORA enhancements. States that are planning to transfer or develop a new CSES to meet PRWORA requirements must submit a separate Planning APD, an analysis of alternatives, an Implementation APD and Cost/Benefit Analysis, which address both FSA of 1988 and PRWORA requirements."*

This document provides a cost analysis of a new CSES developed to meet PRWORA requirements. It assumes that a feasibility study has already been conducted which has defined three alternative systems, one of which must be the status quo. Two distinct benefits models are given. One is a function-based benefits model, the other a revenue stream model. States may use either model or develop their own approach.

SAMPLE COST/BENEFIT ANALYSIS FOR IAPDS

This is the beginning of the sample Cost/Benefit Analysis for IAPDs. The sample includes The following:

Chapter 2
- Introduction
- Results of Feasibility Study and Alternatives Analysis
- Cost Summary
- Benefits Summary
- Measurement Plan - Costs
- Measurement Plan - Benefits

Chapter 3
- Detailed Benefits

Chapter 4
- Reporting

Introduction

With this submission, the State requests approval and Federal participatory funding. As a summary of our justification, this systems project is projected to:

- Meet Federal mandates as the least cost alternative
- Breakeven in 27 months after implementation
- Achieve measurable benefits that reflect important program outcome improvements

Results of Feasibility Study and Alternatives Analysis

The State has evaluated the feasibility of and alternatives for modernizing the information technology and processing procedures supporting its Child Support Enforcement programs. As detailed in the feasibility study, this statewide Child Support Enforcement Information System project has the following primary objectives as required by Federal regulations:

- Be a comprehensive, statewide, operational system
- Be an integrated system
- Support efficient and effective program administration.
- Meet the requirements of FSA and PRWORA

This project also has program objectives to:

- Increase support for children through increased collections
- Increase family cohesion through paternity establishment
- Improve customer satisfaction through faster processing and case-worker efficiency

During the alternatives analysis, the State selected (and justified the selection of) three alternatives for evaluation of costs and benefits in comparison to the status quo. All alternatives are considered viable solutions that will achieve the system objectives.

The State currently has a statewide system approved for the Family Support Act of 1988. There are three alternatives for achieving a PRWORA-certified system. Alternative One is an upgrade of the existing system. Alternative Two is a transfer of an existing PRWORA-approved system from another State. Alternative Three is the development of an entirely new system.

Alternative One is the State's selected approach for implementation because it is less costly and, more importantly, will start realizing benefits sooner. It will also break even sooner. See the following Comparison of Alternatives Table. The disadvantages of Alternative One are that it is at some risk of technological obsolescence and will be less user-friendly than a new system. These risks and disadvantages have been addressed in our feasibility study.

Our sensitivity analysis indicates that factors outside the control of the child Support Enforcement program, such as TANF caseloads, could affect the ultimate realization of benefits. The less costly the solution, the more likely the system will prove cost-beneficial under post-implementation analysis. Even under the most negative assumptions, our projections indicate that this project will breakeven. The main drawbacks of Alternative One are in the Intangible Benefits Category (see chart p 2-xx), especially the risk of technological obsolescence. The risks will be included in the Project Risk Management Plan, and mitigation strategies will be developed.

The status quo is not a viable alternative because it does not meet PRWORA requirements, but it is costed out as required by ACF instructions in order to establish a baseline for comparison of the other alternatives under consideration.

Figure 2-1 Comparison of Alternatives

DESCRIPTION	STATUS QUO	ALTERNATIVE ONE (UPGRADE)	ALTERNATIVE TWO (TRANSFER)	ALTERNATIVE THREE (NEW DEVELOPMENT)
Total Present Value Benefits	$0	$1,501,740,000	$1,344,880,000	$1,178,020,000
Less Total Present Value Costs	$64,000,000	$84,000,000	$83,000,000	$103,000,000
Net Benefit (Cost)	($64,000,000)	$1,501,740,000	$1,344,880,000	$1,178,020,000
Benefit/Cost Ratio	0	17.8	16.2	11.4
Breakeven (Months)	NA	27	33	46

Cost Summary

The costs evaluated in this analysis are those that directly relate to the systems design, development, conversion, implementation, and operation. For the status quo, recurring costs include site and facility, equipment and software lease and maintenance, travel, training, supplies, security, and personnel salaries

(including benefits) and support services directly supporting systems development and operation. The same categories are evaluated for the alternatives. Operating costs for the Status Quo and Alternative One are estimated to be slightly higher due to the age of the system.

Nonrecurring costs for the status quo and Alternative One include a systems upgrade planned and budgeted for the third year of the systems life. Nonrecurring costs for the Alternatives include costs for new site and facilities, equipment, system testing, conversion, studies, procurement, database preparation, and overhead. Nonrecurring costs for the alternatives also include systems upgrade in the fifth year after system implementation or upgrade. Annual costs are provided in the cost/benefit profile on page 2-xx.

Total project costs are analyzed regardless of funding source (State and Federal) and regardless of cost allowability for purposes of Federal Financial Participation (FFP), both of which are addressed by other documents.

Note: For detailed development of information system costs the States are referred to the ACF *Companion Guide Cost/Benefit Analysis Illustrated (August 1994).*

Benefits Summary

All alternatives have the same quantitative benefits, with the exception of Benefit 3 (Avoid upgrade of existing system), which applies only to Alternatives Two and Three. Benefits 1 through 3 result in decreased program costs. Benefits 4 through 10 result in increased program revenue. These benefits are considered because they offset the systems development cost, thereby achieving net benefits for the project. Quantitative Benefits are used in the breakeven calculation and are described in Chapter 3.

Annual benefits for the alternatives are provided in the Benefits Baselines (Figure 2-6, 2-7 and 2-8). The status quo is not considered a viable alternative so no benefits are evaluated. The project is projected to breakeven in 27-46 months. See Figure 2-11 for the cost/benefit profile of Alternative One.

Figure 2-2 System Benefits

REDUCED COSTS	
1	Reduced phone costs
2	Reduced overtime - Case closure
3	Avoid upgrade of existing system (Alt 2&3 only)
INCREASED COLLECTIONS	
4	Federal Person Locator Service/Federal Case Registry
5	National Directory of New Hires (NDNH)
6	Financial Institution Data Match (FIDM)
7	Multi-State FIDM
8	Drivers License Suspension
9	Federal Offset
10	Passport Denial
INTANGIBLES	
12	Avoid technology obsolescence
13	Customer satisfaction
14	Ease of use
15	Improved security

The third category, intangibles or Qualitative benefits, represents real benefits that are difficult or impossible to quantify. They are not included in the breakeven calculation. We do, however, give each intangible benefit a rating for each alternative in the following table:

Figure 2-3 Qualitative Benefits

ALTERNATIVE	BENEFIT	MEASURE OF EFFECTIVENESS			
		VERY EFFECTIVE	EFFECTIVE	MINIMALLY EFFECTIVE	NOT EFFECTIVE
1. Upgrade	1. Avoid Technology Obsolescence			X	
	2. Customer Satisfaction		X		
	3.Ease of Use		X		
	4. Security		X		
2. Transfer	1. Avoid Technology Obsolescence		X		
	2. Customer Satisfaction		X		
	3.Ease of Use		X		
	4. Security		X		
3. New Development	1. Avoid Technology Obsolescence	X			
	2. Customer Satisfaction	X			
	3.Ease of Use	X			
	4. Security	X			

Measurement Plan - Costs

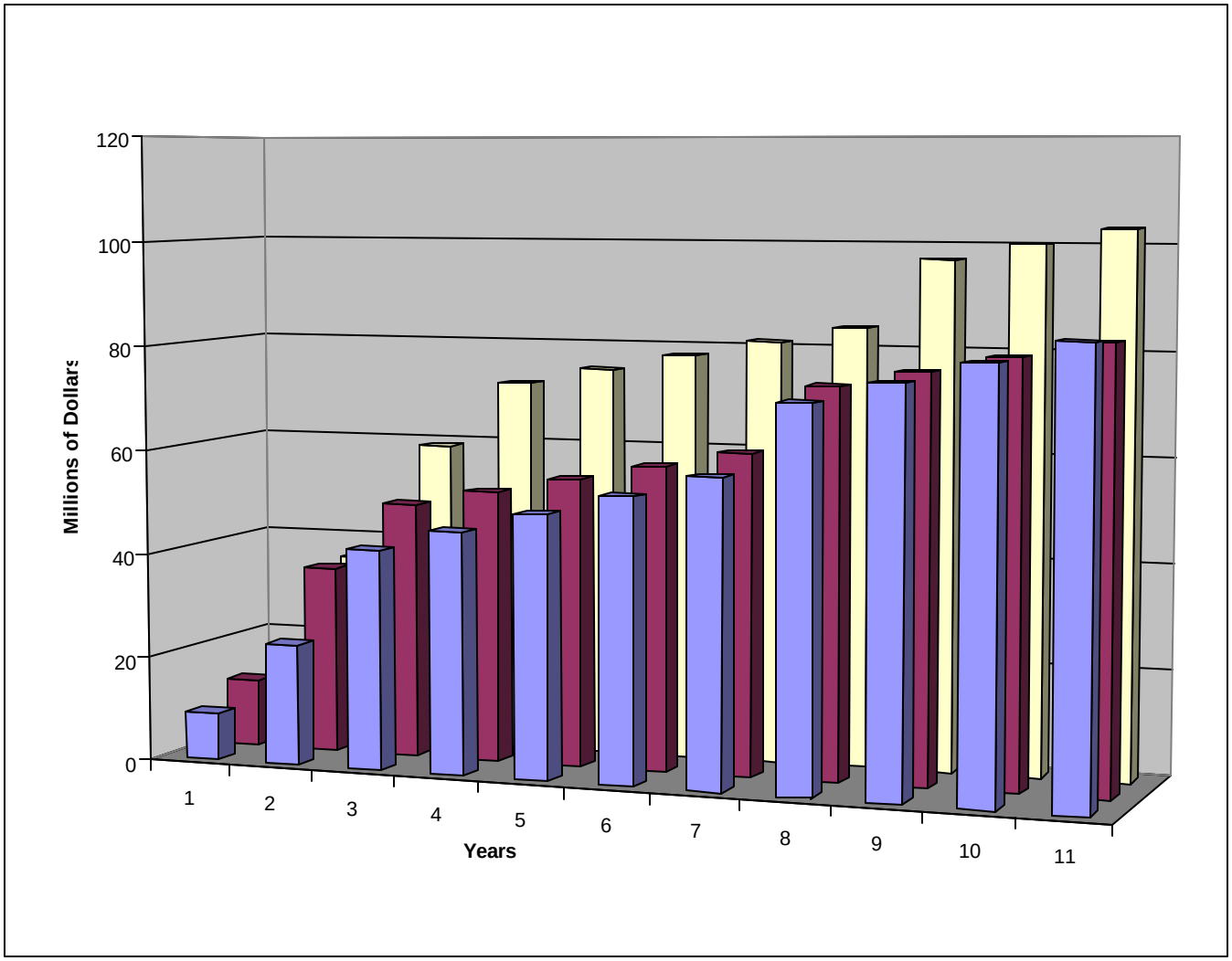
Actual costs will be measured against the selected alternative's projected costs by the finance office, subject to review and approval by the program office. Costs will be measured by category, but reported in the aggregate annually to ACF. Variances of over 10% will be explained by supporting documentation that addresses expenditures by category. The table below depicts the cumulative and annual baselines against which actual project costs will be measured.

Figure 2-4 Annual and System Life Cost Baseline

Projected Costs	FY 1	FY 2	FY 3	FY 4	FY 5	FY 6
Status Quo	$4,000,000	$4,000,000	$14,000,000	$4,000,000	$4,000,000	$4,000,000
Alternative One	$9,000,000	$14,000,000	$19,000,000	$4,000,000	$4,000,000	$4,000,000
Alternative Two	$13,000,000	$23,000,000	$13,000,000	$3,000,000	$3,000,000	$3,000,000
Alternative Three	$13,000,000	$23,000,000	$23,000,000	$13,000,000	$3,000,000	$3,000,000
Projected Costs	**FY 7**	**FY 8**	**FY 9**	**FY 10**	**FY 11**	**Total**
Status Quo	$4,000,000	$14,000,000	$4,000,000	$4,000,000	$4,000,000	$64,000,000
Alternative One	$4,000,000	$14,000,000	$4,000,000	$4,000,000	$4,000,000	$84,000,000
Alternative Two	$3,000,000	$13,000,000	$3,000,000	$3,000,000	$3,000,000	$83,000,000
Alternative Three	$3,000,000	$3,000,000	$13,000,000	$3,000,000	$3,000,000	$103,000,000

The costs that States will measure against during implementation are the projected costs for the selected alternative from the cost/benefit analysis. Status quo costs are not used, present value discounted costs are not used, nor are measurement dollars discounted.

Figure 2-5 Cumulative Costs



Measurement Plan - Benefits

The following charts and tables depict the cumulative and annual baselines against which actual project benefits will be measured. Benefits will be measured in accordance with the measurement plans in Chapter 3.

This cost/benefit measurement plan provides that the State will measure system implementation against cost and benefit values — and against program performance goals. This information will serve as the baseline for reporting "actuals" in future APD Updates.

Figure 2-6 Annual and System Life Benefits Baseline - Alternative One

BENEFIT	FY 1	FY 2	FY 3	FY 4	FY 5	FY 6
Benefit 1	$0	$0	$10,000	$10,000	$10,000	$10,000
Benefit 2	$0	$0	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Benefit 3	$0	$0	$0	$0	$0	$0
Benefit 4	$0	$0	$5,000,000	$5,000,000	$5,000,000	$5,000,000
Benefit 5	$0	$0	$16,700,000	$16,700,000	$16,700,000	$16,700,000
Benefit 6	$0	$0	$12,800,000	$12,800,000	$12,800,000	$12,800,000
Benefit 7	$0	$0	$1,000,000	$1,000,000	$1,000,000	$1,000,000
Benefit 8	$0	$0	$68,000,000	$68,000,000	$68,000,000	$68,000,000
Benefit 9	$0	$0	$61,300,000	$61,300,000	$61,300,000	$61,300,000
Benefit 10	$0	$0	$50,000	$50,000	$50,000	$50,000
Total	$0	$0	$166,860,000	$166,860,000	$166,860,000	$166,860,000

	FY 7	FY 8	FY 9	FY 10	FY 11	TOTAL
Benefit 1	$10,000	$10,000	$10,000	$10,000	$10,000	$90,000
Benefit 2	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$18,000,000
Benefit 3	$0	$0	$0	$0	$0	$0
Benefit 4	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$45,000,000
Benefit 5	$16,700,000	$16,700,000	$16,700,000	$16,700,000	$16,700,000	$150,300,000
Benefit 6	$12,800,000	$12,800,000	$12,800,000	$12,800,000	$12,800,000	$115,200,000
Benefit 7	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$9,000,000
Benefit 8	$68,000,000	$68,000,000	$68,000,000	$68,000,000	$68,000,000	$612,000,000
Benefit 9	$61,300,000	$61,300,000	$61,300,000	$61,300,000	$61,300,000	$551,700,000
Benefit 10	$50,000	$50,000	$50,000	$50,000	$50,000	$450,000
Total	$166,860,000	$166,860,000	$166,860,000	$166,860,000	$166,860,000	$1,501,740,000

Figure 2-7 Annual and System Life Benefits Baseline - Alternative Two

BENEFIT	FY 1	FY 2	FY 3	FY 4	FY 5	FY 6
Benefit 1	$0	$0	$0	$10,000	$10,000	$10,000
Benefit 2	$0	$0	$0	$2,000,000	$2,000,000	$2,000,000
Benefit 3	$0	$0	$10,000,000	$0	$0	$0
Benefit 4	$0	$0	$0	$5,000,000	$5,000,000	$5,000,000
Benefit 5	$0	$0	$0	$16,700,000	$16,700,000	$16,700,000
Benefit 6	$0	$0	$0	$12,800,000	$12,800,000	$12,800,000
Benefit 7	$0	$0	$0	$1,000,000	$1,000,000	$1,000,000
Benefit 8	$0	$0	$0	$68,000,000	$68,000,000	$68,000,000
Benefit 9	$0	$0	$0	$61,300,000	$61,300,000	$61,300,000
Benefit 10	$0	$0	$0	$50,000	$50,000	$50,000
Total	$0	$0	$10,000,000	$166,860,000	$166,860,000	$166,860,000

	FY 7	FY 8	FY 9	FY 10	FY 11	TOTAL
Benefit 1	$10,000	$10,000	$10,000	$10,000	$10,000	$80,000
Benefit 2	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$16,000,000
Benefit 3	$0	$0	$0	$0	$0	$10,000,000
Benefit 4	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$40,000,000
Benefit 5	$16,700,000	$16,700,000	$16,700,000	$16,700,000	$16,700,000	$133,600,000
Benefit 6	$12,800,000	$12,800,000	$12,800,000	$12,800,000	$12,800,000	$102,400,000
Benefit 7	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$8,000,000
Benefit 8	$68,000,000	$68,000,000	$68,000,000	$68,000,000	$68,000,000	$544,000,000
Benefit 9	$61,300,000	$61,300,000	$61,300,000	$61,300,000	$61,300,000	$490,400,000
Benefit 10	$50,000	$50,000	$50,000	$50,000	$50,000	$400,000
Total	$166,860,000	$166,860,000	$166,860,000	$166,860,000	$166,860,000	$1,344,880,000

Figure 2-8 Annual and System Life Benefits Baseline - Alternative Three

BENEFIT	FY 1	FY 2	FY 3	FY 4	FY 5	FY 6
Benefit 1	$0	$0	$0	$0	$10,000	$10,000
Benefit 2	$0	$0	$0	$0	$2,000,000	$2,000,000
Benefit 3	$0	$0	$10,000,000	$0	$0	$0
Benefit 4	$0	$0	$0	$0	$5,000,000	$5,000,000
Benefit 5	$0	$0	$0	$0	$16,700,000	$16,700,000
Benefit 6	$0	$0	$0	$0	$12,800,000	$12,800,000
Benefit 7	$0	$0	$0	$0	$1,000,000	$1,000,000
Benefit 8	$0	$0	$0	$0	$68,000,000	$68,000,000
Benefit 9	$0	$0	$0	$0	$61,300,000	$61,300,000
Benefit 10	$0	$0	$0	$0	$50,000	$50,000
Total	$0	$0	$10,000,000	$0	$166,860,000	$166,860,000

	FY 7	FY 8	FY 9	FY 10	FY 11	TOTAL
Benefit 1	$10,000	$10,000	$10,000	$10,000	$10,000	$70,000
Benefit 2	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$14,000,000
Benefit 3	$0	$0	$0	$0	$0	$10,000,000
Benefit 4	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$5,000,000	$35,000,000
Benefit 5	$16,700,000	$16,700,000	$16,700,000	$16,700,000	$16,700,000	$116,900,000
Benefit 6	$12,800,000	$12,800,000	$12,800,000	$12,800,000	$12,800,000	$89,600,000
Benefit 7	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$7,000,000
Benefit 8	$68,000,000	$68,000,000	$68,000,000	$68,000,000	$68,000,000	$476,000,000
Benefit 9	$61,300,000	$61,300,000	$61,300,000	$61,300,000	$61,300,000	$429,100,000
Benefit 10	$50,000	$50,000	$50,000	$50,000	$50,000	$350,000
Total	$166,860,000	$166,860,000	$166,860,000	$166,860,000	$166,860,000	$1,178,020,000

Figure 2-9 Cumulative Benefits

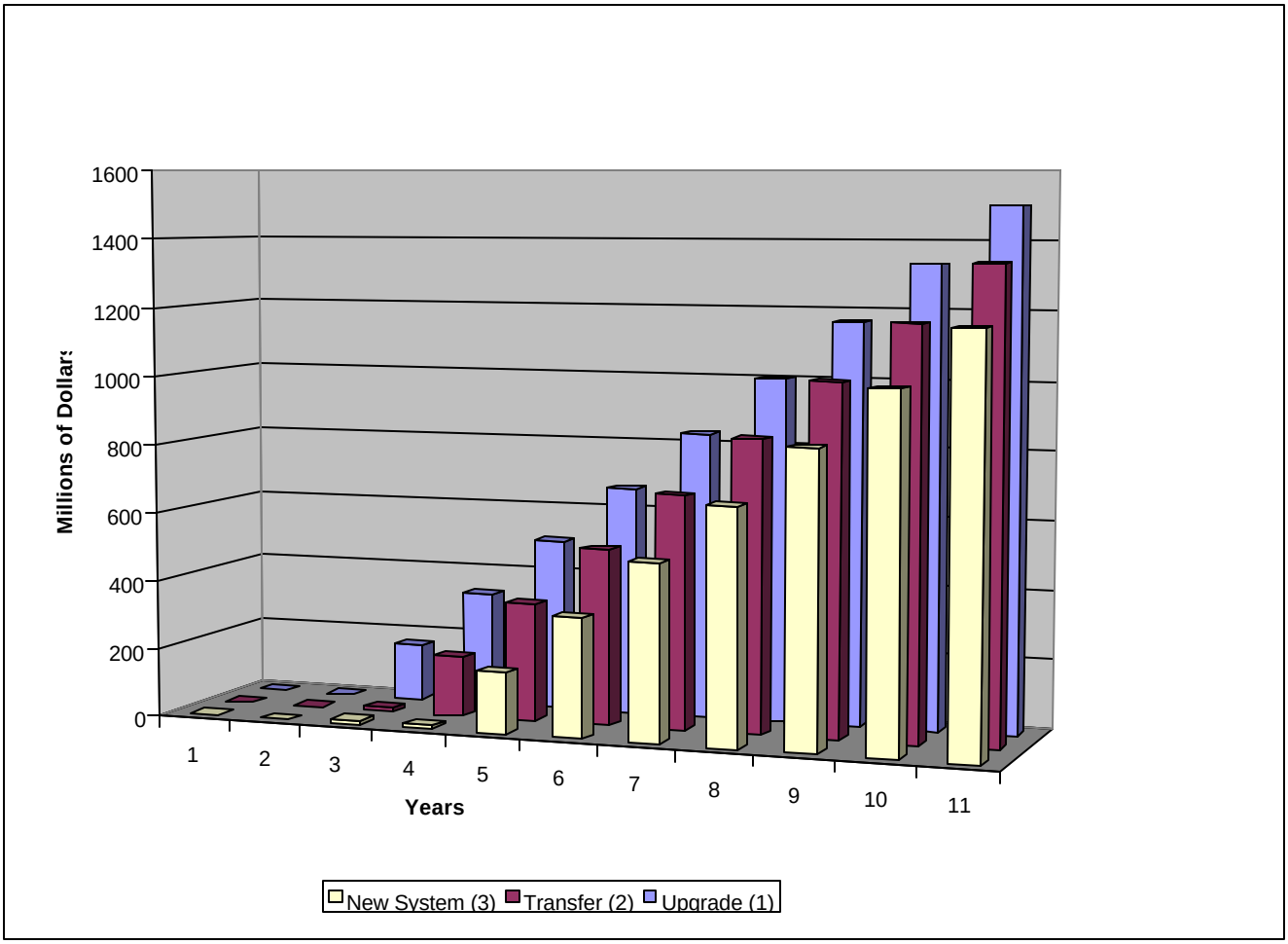


Figure 2-10 Cost/Benefit Measurement Baseline - Alternative One

(MILLIONS OF DOLLARS)												
DESCRIPTION	**FY 1**	**FY 2**	**FY 3**	**FY 4**	**FY 5**	**FY 6**	**FY 7**	**FY 8**	**FY 9**	**FY 10**	**FY 11**	**TOTAL**
SYSTEM LIFE COST BASELINE												
Non-Recurring Costs	5.0	10.0	15.0	0	0	0	0	10.0	0	0	0	40.0
Recurring Costs	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	44.0
Total Costs	9.0	14.0	19.0	4.0	4.0	4.0	4.0	14.0	4.0	4.0	4.0	84.0
SYSTEM LIFE BENEFIT BASELINE												
Total Projected Benefits	0	0	166.8	166.8	166.8	166.8	166.8	166.8	166.8	166.8	166.8	1501.2
CUMULATIVE BENEFIT/COST BASELINE												
Cumulative Total Projected Benefits	0	0	167	334	501	667	834	1,001	1,168	1,335	1,502	NA
Cumulative Total Projected Costs	9	23	42	46	50	54	58	72	76	80	84	NA

Figure 2-11 Cost/Benefit Profile - Alternative One

(MILLIONS OF DOLLARS)												
DESCRIPTION	**FY 1**	**FY 2**	**FY 3**	**FY 4**	**FY 5**	**FY 6**	**FY 7**	**FY 8**	**FY 9**	**FY 10**	**FY 11**	**TOTAL**
SYSTEM LIFE COST PROFILE												
Non-Recurring Costs	5.0	10.0	15.0	0	0	0	0	10.0	0	0	0	40.0
Recurring Costs	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	44.0
Total Projected Costs	9.0	14.0	19.0	4.0	4.0	4.0	4.0	14.0	4.0	4.0	4.0	84.0
Total Present Value Costs	8.7	12.6	16	3.1	2.9	2.7	2.5	8.4	2.2	2.1	1.9	63.1.0
SYSTEM LIFE BENEFIT BASELINE												
Total Projected Benefits	0	0	166.8	166.8	166.8	166.8	166.8	166.8	166.8	166.8	166.8	1501.2
Total Present Value Benefits	0	0	140.8	131.6	123.0	115.0	107.4	100.4	93.8	87.7	81.9	981.6
CUMULATIVE BENEFIT/COST BASELINE												
Cumulative Total Projected Benefits	0	0	167	334	501	667	834	1,001	1,168	1,335	1,502	NA
Cumulative Total Projected Costs	9	23	42	46	50	54	58	72	76	80	84	NA

QUALITATIVE BENEFITS				
BENEFITS	**MEASURE OF EFFECTIVENESS**			
	VERY EFFECTIVE	**EFFECTIVE**	**MINIMALLY EFFECTIVE**	**NOT EFFECTIVE**
1. Avoid Technology Obsolescence			X	
2. Customer Satisfaction		X		
3. Ease of Use		X		
4. Security		X		

Project Breakeven

The following charts indicate the breakeven or payback point for the three alternatives. Cumulative total costs are compared against cumulative total benefits to determine the month of breakeven or payback. Projected values, not present value numbers, are used in the calculation. As shown by the charts, breakeven for Alternative One (Upgrade) is 27 months, Alternative Two (Transfer) is 33 months, and breakeven for Alternative Three (New Development) is 46 months.

Figure 2-12 Breakeven - Alternative One

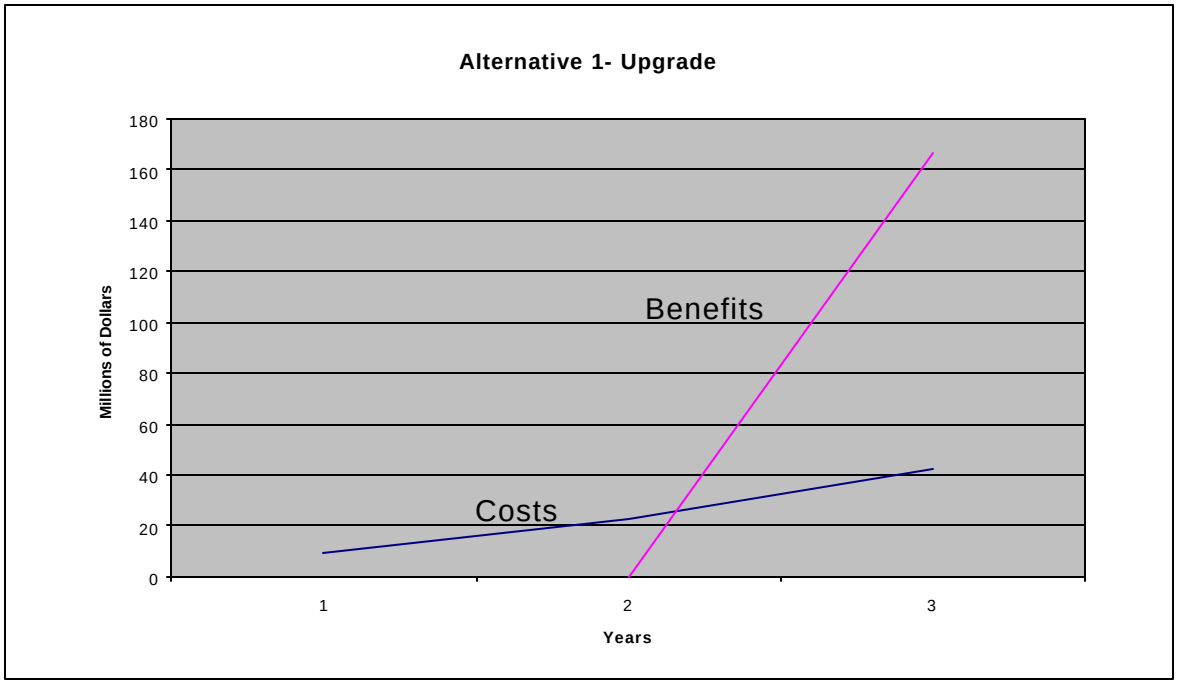


Figure 2-13 Breakeven - Alternative Two

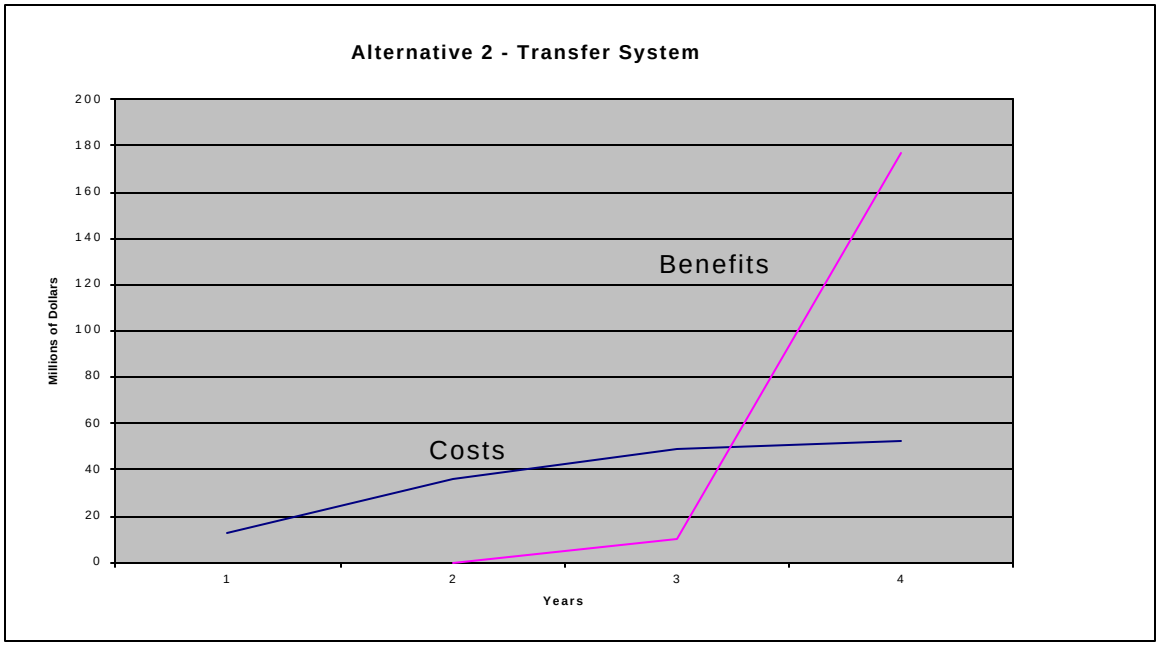
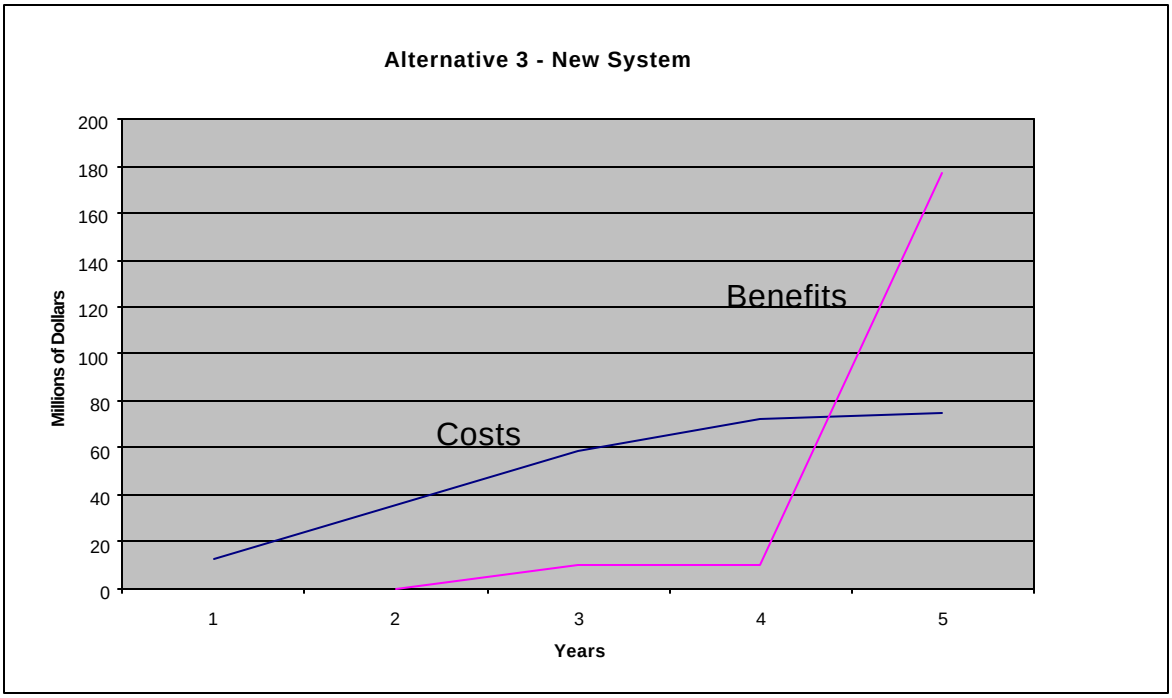


Figure 2-14 Breakeven Alternative - Three



Response to ACF's Criteria:

We thoroughly evaluated the performance of and described the systems life costs of the status quo in the feasibility study, alternatives analysis, and cost/benefit analysis.

During the alternatives analysis, we considered a broad range of alternatives. We addressed six alternatives, varying in terms of technology and source. Those alternatives included enhancement of the existing system, transfer and new development. The reasons for selection of the two alternatives for cost/benefit analysis are documented in the alternatives analysis.

We applied cost/benefit analysis to the status quo and three viable alternatives. We evaluated all on a systems life basis, using present value discounting at 7%. Constant dollars were used.

We consider the evaluation and documentation of costs and benefits to be thorough, detailed, and well documented. Back-up documentation and studies will be maintained in the State throughout the systems life of the project. The cost and benefit projections are well documented and provide a sound basis for cost/benefit measurement.

Net benefits (costs), benefit/cost ratios, and breakeven points were calculated for the three alternatives. We consider the selected alternative reasonable and fully capable of meeting our systems objectives.

We have set forth a clear set of projected costs and benefits against which actuals can be measured. We have also set forth qualitative measures, linked to program objectives, which can be measured.

A narrative description of benefits (with benefit measurement plans) follows in Chapter 3.
A cost/benefit profile for the selected alternative is shown in the following chart. A graph shows the breakeven point based on this cost/benefit profile.

Note: *This section is based on the criteria set forth in ACF's "Feasibility, Alternatives, and Cost/Benefit Analysis Guide" on pages 1-5 and 1-6.*

3 Cost Benefit Analysis for APDs - Benefit Models

INTRODUCTION

This chapter continues our example of an Implementation Advance Planning Document (IAPD) that addresses cost/benefit analysis for a Child Support Enforcement system. Chapter 2 established costs and a baseline for later cost/benefit measurement and reporting. This chapter provides two models for describing benefits. The first, called the "Functional Model", tracks benefits to discrete system enhancements or components, such as New Hire Directory, Multi-State FIDM, etc. The second, called the "Revenue Stream Model", determines a percentage of all collections increases that can be tracked as a benefit due to automation. This chapter does not mandate a format. It does illustrate a sufficient level of detail for ACF's purposes.

STATE PROFILE

We provide a brief summary of the statistical data for the hypothetical State Child Support Enforcement system that was used in performing the benefit analysis. All data is for the current year.

Figure 3- 1 State Statistical Profile

CASELOAD AND COLLECTIONS	
Cases	800,000
Cases with Orders	600,000
Cases with Collections	300,000
TANF	240,000
Non-TANF	60,000
Support orders established per year	100,000
Locates per year	120,000
Collections per year	$1,000,000,000
TANF	$200,000,000
Non-TANF	$800,000,000
Arrears	$1,000,000,000
Collections on arrears	$200,000,000
Average yearly collections per paying case	$3,334
SYSTEM PROCESSING TIMES	
Average time from case initiation to support order	6 weeks
Average time from support order to collection	12 weeks
OPERATING COSTS	
Staff Salaries and benefits excluding OT	$135,000,000
Overtime	$4,000,000
FTE Staff	3,000
Telecommunications	$1,500,000

The sizes of other States' caseloads used in benefit calculation have been taken from "Statistics in Brief: Analysis of Full Time Equivalent Staff per State Workload As it Appears in Fiscal Years 1997 and 1998" (Renee R. Jackson, DHHS, February 2000).

BENEFIT ANALYSIS - FUNCTIONAL MODEL

Introduction

This benefit model supports the benefits used in the Annual and System Life Benefits Baseline in Chapter 2. It is called a functional model because it tries to show the relationship between an added system function and a corresponding revenue increase. This model uses estimates of revenue increases for each major PRWORA function that will be added to the new system combined with estimates of cost-savings from increased automation. Although the cost savings in this example are small relative to the increased revenue, they still may be an important benefit for the State. This model assumes that caseload growth will be predictable and manageable.

The weakness of this model is that it is sometimes difficult to determine which enhancement is responsible for a specific amount of revenue increase. In addition, for some enforcement techniques, there is also the potential for a benefit being counted more than once.

Benefit 1 - Reduced Phone Costs

A substantial portion of the States CSE telecommunication costs goes to pay for telephone calls on interstate cases. We expect a reduction in these costs due to automation of interstate case handling through Federal interfaces (FPLS, NDNH, CSENet etc.). Current yearly telecommunication costs are $1,500,000. 25% of this cost is long-distance charges. Assuming 25 % of out-of-state cases will be located and enforced automatically instead of by a manual process, we assume a yearly reduction of $10,000 in long-distance telephone costs.

Figure 3- 2 System Life Benefits Profile - Benefit 1

BENEFIT DESCRIPTION											
Benefit Number : 1 **Description:** Reduced phone costs											
SYSTEM LIFE BENEFITS PROFILE (MILLIONS OF DOLLARS)											
FY1	**FY2**	**FY3**	**FY4**	**FY5**	**FY6**	**FY7**	**FY8**	**FY9**	**FY10**	**FY11**	**Total**
STATUS QUO											
0	0	0	0	0	0	0	0	0	0	0	0
ALTERNATIVE 1											
0	0	.01	.01	.01	.01	.01	.01	.01	.01	.01	0.09
ALTERNATIVE 2											
0	0	0	.01	.01	.01	.01	.01	.01	.01	.01	0.08
ALTERNATIVE 3											
0	0	0	0	.01	.01	.01	.01	.01	.01	.01	0.07

Measurement Plan: The State will track long-distance telephone costs by checking the bills from our long-distance provider. Any reduction from the base year will be considered a benefit.

Benefit 2 - Reduced Overtime -Case Closure

The State currently pays substantial overtime costs. We believe that with the increased efficiency of the new system these costs can be substantially reduced or eliminated. We anticipate no staff reductions. Overtime costs are approximately $4,000,000 per year. We estimate a $2,000,000 reduction based on improvement in case closure.

There are ongoing costs associated with maintaining a case past its eligibility for case closure. Mailing of notices, staff time, computer time etc. The state took a statistical sample of it current caseload and estimated 2% of its 800,000 cases (16,000) could be closed under the criteria of 45 CFR 303.11. These cases should all be closed by the new system enhancements effecting case closure. The analysis showed that these cases on average are 2 years past their legitimate closure date. As future cases become eligible for closure, the enhanced system should also close out these cases. The State should realize an immediate benefit from the closing of the 16,000 cases. The State should realize an ongoing benefit from the timely closure of 8,000 cases per year.

We performed a study in which caseworkers logged their time spent on each case. The cases were then evaluated to see if they were eligible for closure. We estimated that caseworkers spend 2% of their time on cases that should have been closed. The overtime rate is 3%. This should be cut at least in half if 2% of existing work can be eliminated through more effective case closure.

Figure 3- 3 System Life Benefits Profile - Benefit 2

BENEFIT DESCRIPTION											
Benefit Number : 2 **Description:** Reduced overtime											
SYSTEM LIFE BENEFITS PROFILE (MILLIONS OF DOLLARS)											
FY1	**FY2**	**FY3**	**FY4**	**FY5**	**FY6**	**FY7**	**FY8**	**FY9**	**FY10**	**FY11**	**Total**
STATUS QUO											
0	0	0	0	0	0	0	0	0	0	0	0
ALTERNATIVE 1											
0	0	2	2	2	2	2	2	2	2	2	18
ALTERNATIVE 2											
0	0	0	2	2	2	2	2	2	2	2	16
ALTERNATIVE 3											
0	0	0	0	2	2	2	2	2	2	2	14

Measurement Plan: The State will track overtime payments using department time sheets and management reports. Any decrease in overtime relative to the base year will be a new system benefit.

Note: A common error in developing benefits is claiming productivity improvements without indicating the effect of the improvement. For example, staff productivity will increase 50%, so I will claim half the payroll as a benefit. This leaves critical questions unanswered. Will payroll costs be cut in half? Will staff be released, reassigned, or idle half the day? Will the work change? Will overtime be reduced? In short, what is the effect? In this example, improved productivity is the basis for a specific benefit: reduced overtime pay. A reduction of staff through attrition would also be a specific benefit. A straight reduction in staff, without attribution to a specific cause, would be less acceptable as a possible benefit, because CSE agencies historically have not reduced staff.

Benefit 3 - Avoid Upgrade Cost of Existing System

The existing system has a system upgrade planned and budgeted for the third year of the systems life. Alternatives 2 and 3, the transfer system and the new system, will avoid this cost.

Figure 3- 4 System Life Benefits Profile - Benefit 3

BENEFIT DESCRIPTION											
Benefit Number : 3 **Description:** Avoid upgrade cost of existing system											
SYSTEM LIFE BENEFITS PROFILE (MILLIONS OF DOLLARS)											
FY1	**FY2**	**FY3**	**FY4**	**FY5**	**FY6**	**FY7**	**FY8**	**FY9**	**FY10**	**FY11**	**Total**
STATUS QUO											
0	0	0	0	0	0	0	0	0	0	0	0
ALTERNATIVE 1											
0	0	0	0	0	0	0	0	0	0	0	0
ALTERNATIVE 2											
0	0	10	0	0	0	0	0	0	0	0	10
ALTERNATIVE 3											
0	0	10	0	0	0	0	0	0	0	0	10

Measurement Plan: The cost estimate for the system upgrade is in the annual budget for the base year.

Benefit 4 - Increased Revenue-Federal Person Locator Service/Federal Case Registry

Based on past history, the system establishes 100,000 cases per year. The State has performed a statistical analysis of its caseload and has determined that for every established case that is located 30% will become paying cases. Average payment per case for our paying cases is $3,334 dollars per year. If FPLS/FCR matches result in an increase in locates of 5,000 per year (based on similar sized States with FPLS/FCR interface established) and 30% of these become paying cases, an increase in collections of $5,001,000 dollars $(0.3 \times 5{,}000 \times \$3{,}334)$ should result.

Figure 3- 5 System Life Benefits Profile - Benefit 4

BENEFIT DESCRIPTION											
Benefit Number : 4 **Description:** Federal Person Locator Service/Federal Case Registry											
SYSTEM LIFE BENEFITS PROFILE (MILLIONS OF DOLLARS)											
FY1	**FY2**	**FY3**	**FY4**	**FY5**	**FY6**	**FY7**	**FY8**	**FY9**	**FY10**	**FY11**	**Total**
STATUS QUO											
0	0	0	0	0	0	0	0	0	0	0	0
ALTERNATIVE 1											
0	0	5	5	5	5	5	5	5	5	5	45
ALTERNATIVE 2											
0	0	0	5	5	5	5	5	5	5	5	40
ALTERNATIVE 3											
0	0	0	0	5	5	5	5	5	5	5	35

Measurement Plan: The State will track all payments on new cases located through FCR match and consider them a benefit.

Benefit 5 - Increased Revenue-National Directory of New Hires

The State of Virginia reported $20,223,324 dollars in additional collections from income withholdings over a 29-month period. This amount could not have been collected without a New Hire reporting program. ("15 Facts on Employer New Hire Reporting Child Support Enforcement", OCSE, February 12, 1997). Since our caseload is approximately twice that of Virginia we would expect a yearly benefit of $16,736,544 $\left(\left(\$20{,}223{,}324 \div 29\right) \times 2 \times 12\right)$.

Figure 3- 6 System Life Benefits Profile - Benefit 5

BENEFIT DESCRIPTION											
Benefit Number : 5 **Description:** National Directory of New Hires											
SYSTEM LIFE BENEFITS PROFILE (MILLIONS OF DOLLARS)											
FY1	**FY2**	**FY3**	**FY4**	**FY5**	**FY6**	**FY7**	**FY8**	**FY9**	**FY10**	**FY11**	**Total**
STATUS QUO											
0	0	0	0	0	0	0	0	0	0	0	0
ALTERNATIVE 1											
0	0	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	150.3
ALTERNATIVE 2											
0	0	0	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	133.6
ALTERNATIVE 3											
0	0	0	0	16.7	16.7	16.7	16.7	16.7	16.7	16.7	116.9

Measurement Plan: The State will track additional collections from income withholdings generated through New Hire Reporting and consider them a benefit.

Benefit 6 -Increased Revenue-Financial Institution Data Match

The Commonwealth of Massachusetts has collected $30,000,000 over 7 years of levying the in-state bank accounts of non-custodial parents (MSFIDM Success, OCSE March 2000). Since our caseload is about 3 times that of Massachusetts, we estimate a yearly benefit from implementing FIDM of $12,857,142 $\left(\left(\$30{,}000{,}000 \div 7\right) \times 3\right)$.

Figure 3- 7 System Life Benefits Profile - Benefit 6

BENEFIT DESCRIPTION											
Benefit Number : 6 **Description:** Financial Institution Data Match											
SYSTEM LIFE BENEFITS PROFILE (MILLIONS OF DOLLARS)											
FY1	**FY2**	**FY3**	**FY4**	**FY5**	**FY6**	**FY7**	**FY8**	**FY9**	**FY10**	**FY11**	**Total**
STATUS QUO											
0	0	0	0	0	0	0	0	0	0	0	0
ALTERNATIVE 1											
0	0	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	115.2
ALTERNATIVE 2											
0	0	0	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	102.4
ALTERNATIVE 3											
0	0	0	0	12.8	12.8	12.8	12.8	12.8	12.8	12.8	89.6

Measurement Plan: The State will track all payments collected through in-State FIDM and consider them a benefit.

Benefit 7 -Increased Revenue-Multi-State Financial Institution Data Match

The State of Florida has collected $567,632 from MSFIDM levies in the five-month period between August 27, 1999 and January 25, 2000. (MSFIDM Success, OCSE, March 2000). Since our caseload is roughly the same size as that of Florida, we estimate a yearly benefit from implementing MSFIDM of approximately $1,000,000. $(\$567{,}632 \div 5) \times 12 = 1{,}362{,}316$

Figure 3- 8 System Life Benefits Profile - Benefit 7

BENEFIT DESCRIPTION											
Benefit Number : 7 **Description:** Multi-State Financial Institution Data Match											
SYSTEM LIFE BENEFITS PROFILE (MILLIONS OF DOLLARS)											
FY1	**FY2**	**FY3**	**FY4**	**FY5**	**FY6**	**FY7**	**FY8**	**FY9**	**FY10**	**FY11**	**Total**
STATUS QUO											
0	0	0	0	0	0	0	0	0	0	0	0
ALTERNATIVE 1											
0	0	1	1	1	1	1	1	1	1	1	9
ALTERNATIVE 2											
0	0	0	1	1	1	1	1	1	1	1	8
ALTERNATIVE 3											
0	0	0	0	1	1	1	1	1	1	1	7

Measurement Plan: The State will track all payments collected through MSFIDM and consider them a benefit.

Benefit 8 - Increased Revenue -Drivers License Suspension

Maryland, a state with a caseload approximately half the size of our State, has collected $103,000,000 over the past three years through driver's license suspension (Washington Post, September 9, 1999). We assume our State's collections for the first three years will be twice this amount of Maryland, due to our larger caseload. This gives a yearly benefit of $68,666,667 $\left(\left(\$103{,}000{,}000 \div 3\right) \times 2\right)$.

Figure 3- 9 System Life Benefits Profile - Benefit 8

BENEFIT DESCRIPTION											
Benefit Number : 8 **Description:** Drivers License Suspension											
SYSTEM LIFE BENEFITS PROFILE (MILLIONS OF DOLLARS)											
FY1	**FY2**	**FY3**	**FY4**	**FY5**	**FY6**	**FY7**	**FY8**	**FY9**	**FY10**	**FY11**	**Total**
STATUS QUO											
0	0	0	0	0	0	0	0	0	0	0	0
ALTERNATIVE 1											
0	0	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	618.3
ALTERNATIVE 2											
0	0	0	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	549.6
ALTERNATIVE 3											
0	0	0	0	68.7	68.7	68.7	68.7	68.7	68.7	68.7	480.9

Measurement Plan: The State will track all payments made in response to Driver's License Suspension and consider them a benefit. Any payments made on a previously non-paying case that begin within three months of license suspension will be considered payments made in response to license suspension.

Benefit 9 - Increased Revenue -Federal Offset

As of November 1999, the State of Florida, had collected $61,337,604 dollars via Federal Offset for the year 1999 (Federal Offset Year-to-Date Statistics, Report MI-M-600, November 29,1999). We estimate the same annual benefit for our state, since our caseload is similar to that of Florida.

Figure 3- 10 System Life Benefits Profile - Benefit 9

BENEFIT DESCRIPTION											
Benefit Number : 9 **Description:** Federal Offset											
SYSTEM LIFE BENEFITS PROFILE (MILLIONS OF DOLLARS)											
FY1	**FY2**	**FY3**	**FY4**	**FY5**	**FY6**	**FY7**	**FY8**	**FY9**	**FY10**	**FY11**	**Total**
STATUS QUO											
0	0	0	0	0	0	0	0	0	0	0	0
ALTERNATIVE 1											
0	0	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	551.7
ALTERNATIVE 2											
0	0	0	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	490.4
ALTERNATIVE 3											
0	0	0	0	61.3	61.3	61.3	61.3	61.3	61.3	61.3	429.1

Measurement Plan: The State will track all payments collected through Federal Offset and consider them a benefit.

Benefit 10 - Increased Revenue-Passport Denial

From October 1, 1997 through November 30, 1999, Florida collected $96,606 through the Passport Denial Program (OCSE Passport Denial Program Summary Statistics - Report MI-M-630 - December 1, 1999). We estimate an annual benefit of $48,303 ($96,606 ÷2 years) for our state, since our caseload is similar to that of Florida.

Figure 3- 11 System Life Benefits Profile - Benefit 10

BENEFIT DESCRIPTION											
Benefit Number : 10 **Description:** Passport Denial											
SYSTEM LIFE BENEFITS PROFILE (MILLIONS OF DOLLARS)											
FY1	**FY2**	**FY3**	**FY4**	**FY5**	**FY6**	**FY7**	**FY8**	**FY9**	**FY10**	**FY11**	**Total**
STATUS QUO											
0	0	0	0	0	0	0	0	0	0	0	0
ALTERNATIVE 1											
0	0	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.45
ALTERNATIVE 2											
0	0	0	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.4
ALTERNATIVE 3											
0	0	0	0	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.35

Measurement Plan: The State will track all payments made in response to Passport Denial and consider them a benefit. Any payments made on a previously non-paying case that begin within three months of passport denial will be considered payments made in response to passport denial, unless there has been an intervening license suspension (see 3.3.10).

BENEFIT ANALYSIS - REVENUE STREAM MODEL

Introduction

This is an acceptable alternate way of modeling system benefits. These costs and benefits do not correspond to those in Chapter 2. This model estimates the increase in revenue due to automation for the system as a whole, without trying to determine what new system function caused the increase. Software enhancements are necessarily interdependent and it is oftentimes difficult to differentiate the value of benefits among ten or twenty small and large changes.

The strength of this model is that is easy to predict, measure and verify the changes in revenue and that it will include benefits from all automation improvements, even those that are difficult to predict and/or quantify. The weakness of the model is that it does not differentiate between the benefits of individual system enhancements (the increase in collections due to Driver's License Suspension, for example, will not be identified) and that it may include some revenues that are not due to automation (re-organizations, program changes, enhanced training, etc.) Given the weakness of the benefit model's ability to associate derived benefits to specific functional software, we believe this model may not be well suited for use in feasibility studies and their requisite analyses of alternatives.

A primary purpose of a feasibility study is to differentiate between various alternatives based on the distinctive costs and related benefits of each functional capability in each unique alternative being analyzed. In doing so, a representative cost benefit model is created that differentiates how each alternative compares to their others based on their accumulation of costs and benefits. The Revenue Stream model does not lend itself to such granularity. Rather, the Benefits model is better suited to the issue of differentiation, and therefore, States should employ that model versus the Revenue Stream model when feasibility studies are at issue.

Model Description

This model makes a prediction, based on historical data, on the rate of collections growth. A percentage of this collections growth is defined as a benefit revenue stream. The percentage used in this calculation is calculated for each year of the system's life and is the ratio of the system's operation costs plus amortized system development costs to the total administrative cost of the system. When the cumulative benefit from the benefit revenue stream exceeds the cumulative total cost of system development and ongoing operations and maintenance, then the system is considered to have paid for itself (broken even).

The following is a description of how to perform the calculations in this model. This description assumes that the system was implemented at the end of 1998 and that complete financial data is available for 1999. 1998 is considered the base year. The projected life of the system is assumed to be 8 years.

The calculations used are as follows:

1. The Annual Caseload Growth is determined by calculating the average yearly percentage increase in total caseload (all case types) for the program over several years. At least three years of data should be used in this calculation. Trends in caseload growth do not necessarily affect the Revenue Stream Model, and as such are not employed in the cost benefit calculations. This may seem odd, given the requirement in our model to calculate total caseload growth. However, this is done for an important reason — to provide a checks-and-balances measure to identify when the model's calculations are potentially

destabilized by an anomalous, extraordinary jump in caseload. Such aberrations might include large one-time jumps in caseload growth due to legislative changes. Obviously in these instances, distinct increases in ADP charges to handle the caseload growth could result in corresponding one-time boosts in ADP charges (e.g., operational costs) — a major component of this cost benefit model.

1999 Caseload Growth Rate = (1999 Caseload -1998 Caseload) ÷ 1998 Caseload
1998 Caseload Growth Rate = (1998 Caseload -1997 Caseload) ÷ 1997 Caseload
1997 Caseload Growth Rate = (1997 Caseload -1996 Caseload) ÷ 1996 Caseload

Caseload Growth Rate = ((1997 Growth Rate + 1998 Growth Rate + 1999 Growth Rate) ÷ 3)× 100

2. The Annual Collections Growth is determined by calculating the average yearly percentage increase in collections for the program over several previous years. At least three years of data should be included in this calculation. As we previously stated, trends in caseload growth (Caseload Growth Rate) may be used to modify this number. However, caseload growth does not necessarily affect the model, and caution needs to be used to assure aberrations in the model regarding significant caseload fluctuations are addressed in the assumptions regarding collection growth calculations.

1999 Collection Growth Rate = (1999 Collections -1998 Collections) ÷ 1998 Collections
1998 Collection Growth Rate = (1998 Collections -1997 Collections) ÷ 1997 Collections
1997 Collection Growth Rate = (1997 Collections -1996 Collections) ÷ 1996 Collections

Annual Collections Growth = (1997 Growth Rate + 1998 Growth Rate + 1999 Growth Rate) ÷ 3 × 100

3. The Total Collections for Year is calculated for each year by taking the total collections from the previous year and multiplying by the Annual Collection Growth (ACG). This is calculated for each year of the system's projected life.

Total Collections for 1999 = Actual
Total Collections for 2000 = Total Collections for 1999 × (1 + (ACG÷100))
Total Collections for 2001 = Total Collections for 2000 × (1 + (ACG÷100))
Etc.

4. The Annual Administration Costs for the program is recorded for 1999 and projected (using an Annual Admin. Growth percentage tied to the rate of inflation) for each subsequent year of the system's projected life. This is the total cost of running the program for the year. Caution needs to be taken here to ensure projections account for any future legislative increases in funding , such as large staffing expenditures.

5. Annual Amortization of System Development is the total costs of developing and operating the system. It is calculated for each year. It consists of:

a) The Annual System Development Cost (ASDC) which is the actual total Development Cost amortized over the projected life of the system (8 years).

ASDC = Development Cost ÷ 8

b) Actual Annual Automated Data Processing (ADP) Costs for the first year and projected Annual ADP Costs (using an Annual ADP Growth percentage tied to the rate of inflation) for each subsequent year.

These are summed to get the Annual Amortization of System Development (AASD) costs for each year :

AASD for 1999 = ASDC + Actual ADP Costs for 1999
AASD for 2000 = ASDC + Projected ADP Costs for 2000
Etc.

6. The ADP to Admin Percentage (AAP) is then calculated for each year.

AAP for 1999 = (AASD for 1999 ÷ Actual Annual Admin Cost for 1999) × 100
AAP for 2000 = (AASD for 2000 ÷ Projected Annual Admin Cost for 2000) × 100
Etc.

7. The Collection Difference between the collections for the base year (1998) and the current year is calculated for each year using Total Collections for Year.

Collection Difference for 1999 = Total Collections for 1999 - Total Collections for 1998
Collection Difference for 2000 = Total Collections for 2000 - Total Collections for 1998
Collection Difference for 2001 = Total Collections for 2001 - Total Collections for 1998
Etc.

8. The Benefit Attributed to Automation (BAA) for each year is calculated as a share of the total revenue increase by multiplying the Collection Difference for each year by the ADP to Admin Percentage (AAP).

BAA for 1999 = (Collection Difference for 1999 × AAP for 1999) ÷ 100
BAA for 2000 = (Collection Difference for 2000 × AAP for 2000) ÷ 100
Etc.

9. The Total Accumulated Annual Costs (TAAC) attributable to the new system is calculated for each year. This is the actual non-amortized total System Development Cost (SDC) plus the Annual ADP Costs

TAAC for 1999 = SDC + Actual Annual ADP for 1999
TAAC for 2000 = TAAC for 1999 + Projected Annual ADP Costs for 2000
TAAC for 2001 = TAAC for 2000 + Projected Annual ADP Costs for 2001
Etc.

10. The Total Accumulated Annual Benefits (TAAB) attributable to the new system is calculated for each year.

TAAB for 1999 = BAA for 1999
TAAB for 2000 = TAAB for 1999 + BAA for 2000
TAAB for 2001 = TAAB for 2000 + BAA for 2001

When the Total Accumulated Annual Benefits exceeds the Total Accumulated Annual Costs, then the system has broken even. These values could also be tracked quarterly or monthly to achieve an earlier breakeven.

Model Parameters

Estimates used in the model should fall within the following parameters, based on national historical data from 1993 to 1997 in OCSE's *Twenty-Second Annual Report to Congress*:

3% to 6% for Caseload Growth Rate
3% to 10% for Collection Growth Rate
10% to 40% for Percent of ADP to Administration Costs
Inflation Rate ± 2% for annual Administration Cost Growth Rate
Inflation Rate ± 1% for annual ADP Cost Growth Rate

The State must supply a justification for values that fall outside these parameters.

Updating and Reporting

This model is best presented in a spreadsheet format and should be updated annually in the State's Annual APD Update with actual values. All previous years' spreadsheets should be saved, and changes in estimates analyzed. Any significant changes in the estimates and actual outcomes in the year to year comparisons should be explained.

The report should be part of the AAPDU and should be similar to the format and content organization as that of the Functional Model report found in Chapter 4, and, at a minimum, should contain the following:

- **Narrative:** A brief narrative description of the progress of the project toward achieving breakeven. This narrative must include an analysis and explanation of any significant deviations of the "Actuals" measurements from the previous year's "Estimates" calculations. (See Chapter 4)

- **Spreadsheets:** Breakeven calculations presented in spreadsheet form (see Fig 3-12) including in the spreadsheets from all previous years.

- **Breakeven Chart:** A graphical representation of actual and projected cumulative cost and benefits, including a display of an actual or projected breakeven point. (see Fig 3-13)

- **Breakeven Report:** A numerical representation of actual and projected cumulative cost and benefits showing an actual or projected breakeven point. (See Chapter 4 Figure 4-3)

Figure 3-11 Revenue Stream Spreadsheet - Year 1

	Actual Year 1	Projected Year 2	Projected Year 3	Projected Year 4	Projected Year 5	Projected Year 6	Projected Year 7	Projected Year 8
Total Caseload	142,574	149,703	157,188	165,047	173,299	181,964	191,062	200,615
Total Collections	114,979,206	125,327,335	136,606,795	148,901,407	162,302,534	176,909,762	192,831,641	210,186,489
Annual Admin Costs	29,450,000	30,112,625	30,790,159	31,482,938	32,191,304	32,915,608	33,656,209	34,413,474
Annual ADP Costs	5,381,153	5,467,251	5,554,727	5,643,603	5,733,901	5,825,643	5,918,853	6,013,555
Annual Amortization of System Development	10,131,153	10,217,251	10,304,727	10,393,603	10,483,901	10,575,643	10,668,853	10,763,555
ADP to Admin (%)	34.40%	33.93%	33.47%	33.01%	32.57%	32.13%	31.70%	31.28%
Base Year and Current Year Collection Difference	11,374,206	21,722,335	33,001,795	45,296,407	58,697,534	73,304,762	89,226,641	106,581,489
Benefits Attributed To Automation As A Share Of Total Increase	3,912,863	7,370,415	11,044,908	14,953,905	19,116,316	23,552,504	28,284,407	33,335,656
Total Accum Annual Costs	43,381,153	48,848,404	54,403,131	60,046,734	65,780,635	71,606,278	77,525,131	83,538,686
Total Accum Annual Benefits	3,912,863	11,283,278	22,328,187	37,282,092	56,398,408	79,950,912	108,235,319	141,570,975
Breakeven Month								
Breakeven Amount								
Breakeven Ratio	9.02%	23.10%	41.04%	62.09%	85.74%	111.65%	139.61%	169.47%

Base Year Notes:	
Development (Sunk) Cost	38,000,000
Total Caseload	135,500
Total Collections	103,605,000
Projected Growth Rates Notes:	
Annual Caseload Growth (%)	5.00%
Annual Collections Growth (%)	9.00%
Annual Admin Growth (%)	2.25%
Annual ADP Growth (%)	1.60%
Annual Amortization Rate (%)	12.50%

Figure 3- 12 Breakeven Chart

4 Cost Benefit Reporting for APDs

INTRODUCTION

This chapter is an example of a cost/benefit measurement report. It is written as though reporting in the third year of Alternative One (Upgrade) of the project described in Chapter 2 and 3 using the Functional Benefits Model. This clarifies the relationship between the planning stage studies and the post-implementation measurement and reporting phase. As a reminder, the costs that States will measure against during implementation are the projected costs for the selected alternative from the cost/benefit analysis. Status quo costs are not used, present value discounted costs are not used, and measurement dollars are not discounted.

ANNUAL APD UPDATE: COST / BENEFIT MEASUREMENT REPORT: YEAR 3

Overview

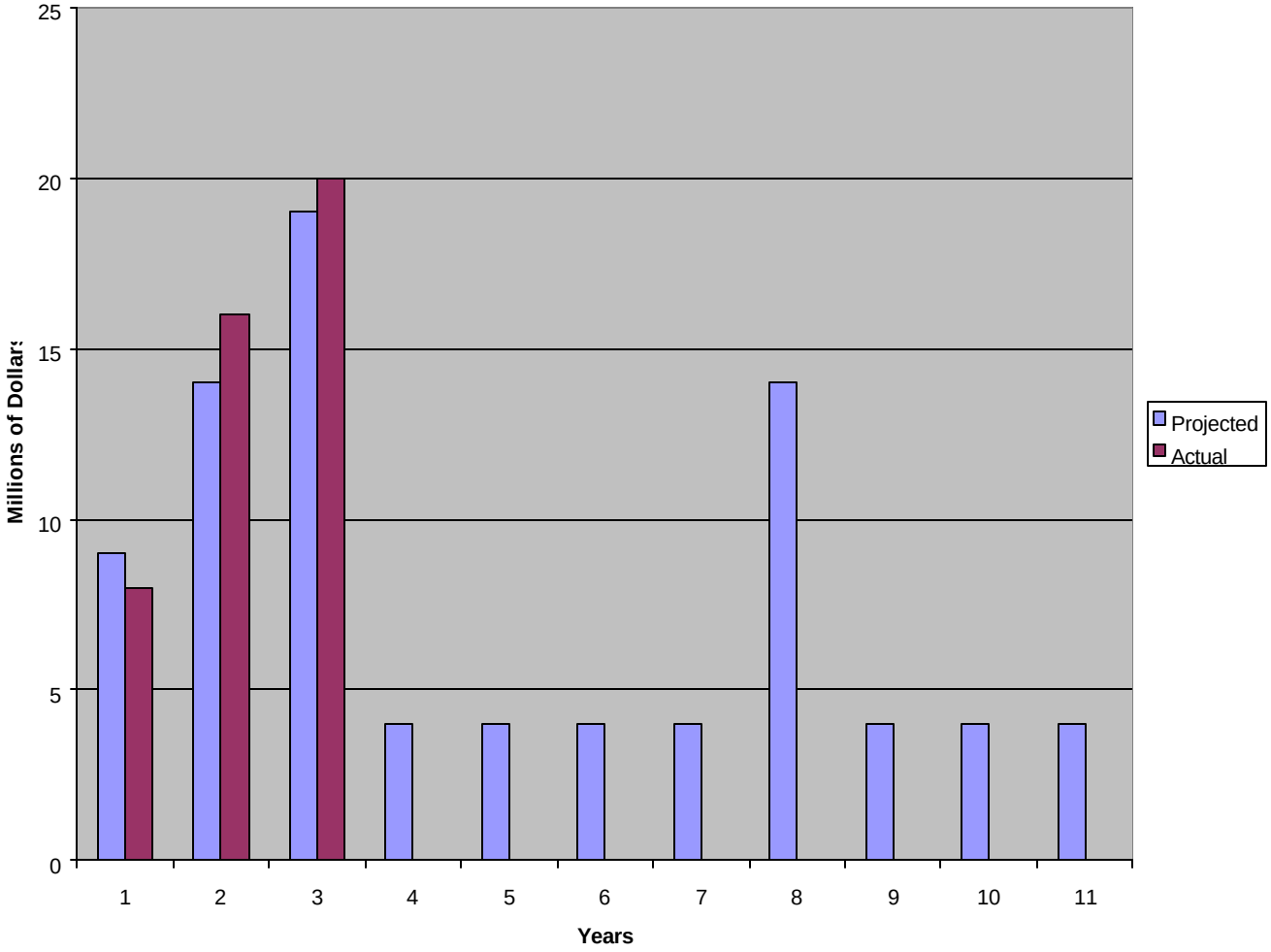
Costs and benefits conformed reasonably well this year with those projected during the planning phase of this systems development project. Although benefits have been, in some cases, lower than anticipated, they reflect (in absolute terms) significant improvement over prior systems and program operations. Overall, benefits slightly exceeded projections.

Costs

Costs incurred this fiscal year were about five percent more than anticipated, primarily due to higher-than-projected support services and training costs. In response, the State has (1) provided more in-house training and (2) initiated cost control procedures to regulate closely contractor task assignments and performance. Another important measure will be taken to reduce expenditures in the support services category. Rather than rely on a single contractor as originally planned, the State will award two support services contracts against which individual tasks will be competed. Note that part of this year's higher training costs were offset by lower than anticipated hardware prices, which resulted from keen competition for the system hardware upgrade.

The following graph depicts the relationship of actual costs in current dollars to the projected costs in constant dollars.

Figure 4-1 Cost Meaurement: Years 1-3



Benefits Measurement

Dollar-quantifiable benefits were ahead of those projected for this year, although several benefit categories were lower than anticipated. (See Annual and System Life Benefits Baseline Chart on page 4-5). All benefits were measured in conformance with the measurement plan described in our Implementation APD. Federal interfaces were implemented and became operational in FY-2. This resulted in some benefits in FY-2 that were not originally projected. Details follow.

Benefit 1 - Reduced Phone Costs

The State tracked long-distance telephone costs and considered any reduction a benefit. The project saw no measurable decrease in phone costs. This may be due to lack of training in the automated features of the system. The planned in-house training may cause this benefit to be realized.

Benefit 2 - Reduced Overtime -Case Closure

The State tracked overtime payments and considered any decrease a benefit of the new system. The project, however, saw an actual increase in overtime costs. This may also be due to lack of training in the automated features of the system. The planned in-house training may cause this benefit to be realized.

Benefit 3 - Avoid Upgrade Cost Of Existing System

This benefit does not apply to Alternative One. The system upgrade took place this year

Benefit 4 - Increased Revenue-Federal Parent Locator Service/Federal Case Registry

The State tracked all payments on cases located through FPLS and considered them a benefit. The system located 7,000 cases though its automated interface with FPLS and FCR, resulting in collections of $6,000,000 for FY-3. This interface was implemented in FY-2, resulting in $3,000,000 in collections in FY-2.

Benefit 5 - Increased Revenue-National Directory of New Hires

The State tracked additional collections from income withholdings generated through New Hire Reporting and considered them a benefit. New Hire reporting generated additional collections of $18,000,000. This function was implemented in FY-2, resulting in $5,000,000 in collections in FY-2.

Benefit 6 -Increased Revenue-Financial Institution Data Match

The State tracked all payments collected through in-State FIDM and considered them a benefit. Levying the in-state bank acoounts of obligors generated $9,000,000 in additional revenue.

Benefit 7 -Increased Revenue-Multi-State Financial Institution Data Match

The State will track all payments collected through MSFIDM and consider them a benefit. This feature has not yet been implemented due to legal problems. No benefits have been generated yet.

Benefit 8 - Increased Revenue -Drivers License Suspension

The State tracked all payments made in response to Driver's License Suspension and considered them a benefit. All payments on arrrears that occurred after an obligors license was suspeneded were assumed to be due to the suspension. Drivers license suspension generated $50,000,000 in additional revenue.

Benefit 9 - Increased Revenue -Federal Offset

The State tracked all payments collected through Federal Offset and considered them a benefit. Federal offset programs generated $86,000,000 in revenue. This function was implemented in FY-2, resulting in $13,000,000 in collections in FY-2.

Benefit 10 - Increased Revenue-Passport Denial

The State tracked all payments made in response to Passport Denial and considered them a benefit. Passport denial generated $30,000 in revenue in FY-3.

Figure 4-2 Annual and System Life Benefits Baseline Update

ALTERNATIVE ONE - UPGRADE (MILLIONS OF DOLLARS)						
BENEFIT	**FY 1 PROJECTED**	**FY 1 ACTUAL**	**FY 2 PROJECTED**	**FY 2 ACTUAL**	**FY 3 PROJECTED**	**FY 3 ACTUAL**
Benefit 1 Phone Usage	0.0	0.0	0.0	0.0	0.01	*0.0
Benefit 2 Overtime	0.0	0.0	0.0	0.0	2.0	*0.0
Benefit 3 Avoid Upgrade	0.0	0.0	0.0	0.0	0.0	0.0
Benefit 4 FPLS	0.0	0.0	0.0	*3.0	5.0	*6.0
Benefit 5 NDNH	0.0	0.0	0.0	*5.0	16.7	18.0
Benefit 6 FIDM	0.0	0.0	0.0	0.0	12.8	*9.0
Benefit 7 MSFIDM	0.0	0.0	0.0	0.0	1.0	0.0
Benefit 8 License Suspension	0.0	0.0	0.0	0.0	61.3	*50.0
Benefit 9 Federal Offset	0.0	0.0	0.0	*13.0	68.0	*86.0
Benefit 10 Passport Denial	0.0	0.0	0.0	0.0	0.05	*0.03
Total	0.0	0.0	0.0	21	166.86	169.03

* = Variance Over 10%

Projected Breakeven

The systems project has broken even, at approximately the same time as originally projected. (See the Cost/Benefit Measurement Profile on the next page). *In accordance with ACF guidance, the State requests release from future cost/benefit measurement reporting.*

Figure 4-3 Cost/Benefit Measurement Baseline

ALTERNATIVE ONE - UPGRADE (MILLIONS OF DOLLARS)												
DESCRIPTION	**FY 1**	**FY 2**	**FY 3**	**FY 4**	**FY 5**	**FY 6**	**FY 7**	**FY 8**	**FY 9**	**FY10**	**FY11**	**TOTAL**
SYSTEM LIFE COST PROFILE												
Actual Non-Recurring Costs	4.0	12.0	16.0	0	0	0	0	10.0	0	0	0	40.0
Actual Recurring Costs	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	44.0
Actual Total Costs	8.0	16.0	20.0	-	-	-	-	-	-	-	-	44.0
Total Projected Costs	9.0	14.0	19.0	4.0	4.0	4.0	4.0	14.0	4.0	4.0	4.0	84.0
SYSTEM LIFE BENEFIT PROFILE												
Actual Total Benefits	0	22	169	-	-	-	-	-	-	-	-	200
Total Projected Benefits	0	0	166.8	166.8	166.8	166.8	166.8	166.8	166.8	166.8	166.8	1501.2
CUMULATIVE BENEFIT/COST PROFILE (ACTUAL AND PROJECTED)												
Cumulative Total Actual and Projected Benefits	0	22	191	357	524	691	858	1025	1191	1358	1525	NA
Cumulative Total Actual and Projected Costs	8	24	44	48	52	56	60	74	78	82	86	NA

COMPARISONS			
Description	Actual to Date	Current Projected	Baseline
Total Benefits	191	1525	1501.2
Less Total Costs	44	86	84
Net Benefit (Cost)	147	1439	1417.2
Benefit/Cost Ratio	4.3	17.7	17.8
Breakeven	Has broken even	Has broken even	Has broken even

A. REFERENCES

Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs
Circular No. A-94
Office of Management and Budget
October 29, 1992

Feasibility, Alternatives, and Cost/Benefit Analysis Guide
Office of Information Systems Management
July 1993

Companion Guide: Cost/Benefit Analysis Illustrated
Administration for Children and Families
U.S. Department of Health and Human Services
August 1994

Code of Federal Regulations 45 - Public Welfare
Office of the Federal Register
National Archives and Records Administration
October 1998

- CFR 45 Part 95.605 (2)(iv) - Cost/Benefit Analysis for IAPD
- CFR 45 Part 205.37 (a)(5) - ACF responsibility for Cost/Benefit Analysis
- CFR 45 Part 307.15(b)(11)-(14) - Approval of APD Cost/Benefit Analysis

B. SPREADSHEETS

The Microsoft Excel 97 application accompanying this guide contains integrated spreadsheets designed for entering and summarizing Child Support Enforcement Cost/Benefit Analysis data. There are two distinct applications, one for each benefits model.

Functional Benefit Model

The application consists of five files:

NewMainMenu.xls
Costs.xls
Benefits.xls
Summary.xls
CBSummary.xls

Open *NewMainMenu.xls* to start the application. This will bring up the Main Menu.

Select CostsProfile to get the Input Cost Data Menu where recurring and non-recurring quarterly costs for the Status Quo and up to three alternatives can be entered. The spreadsheets will sum the costs and calculate Present Value Cost.

Select BenefitsProfile to get the Input Benefits Data Menu where up to 11 benefits for the Status Quo 3 and up to three alternatives can be entered by quarter. The spreadsheets will sum the costs and calculate Present Value Cost.

Select BenefitsSummary to see the summary of the benefits for each alternative.

Select CostsBenefitsSummary to see a system life cycle cost and benefit profile and graphical representations of cumulative costs and benefits and the breakeven point for each alternative.

The menu and sub-menus are shown in the following table:

Figure 4-4 Functional Cost/Benefit Analysis Spreadsheets

MAIN MENU OPTION	SUB MENU	SPREADSHEET		DATA ENTRY
CostsProfile	Input Cost Data Menu	Costs_StatusQuo		Yes
		Costs_Alt1		Yes
		Costs_Alt2		Yes
		Costs_Alt3		Yes
BenefitsProfile	Input Benefits Data Menu	Alt1	Benefit 1	Yes
			Benefit 2	Yes
			Benefit 3	Yes
			Benefit 4	Yes
		Alt2	Benefit 5	Yes
			Benefit 6	Yes
			Benefit 7	Yes
		Alt3	Benefit 8	Yes
			Benefit 9	Yes
			Benefit 10	Yes
			Benefit 11	Yes
BenefitsSummary	Benefits Summary Menu	Benefits_StatusQuo		No
		Benefits_Alt1		No
		Benefits_Alt2		No
		Benefits_Alt3		No
CostsBenefitsSummary	Comparison Menu	CBA_Summary		No
		Chart_StatusQuo		No
		Chart_Alt1		No
		Chart_Alt2		No
		Chart_Alt3		No

Revenue Stream Benefit Model

The application consists of one file:

revenue stream model.xls

Open *revenue stream model.xls* to start the application. Enter:

- Actual Base Year Data (Development Cost, Base Year Total Caseload, Base Year Total Collections)
- Projected Growth Rates (Annual Caseload Growth, Annual Collections Growth, Annual Admin Growth, Annual ADP Growth)
- Actual Benefit Year Data (Annual Caseload Figures, Annual Collection Figures, Annual Admin Figures, Annual ADP Figures)

The application will amortize the cost of system development over 8 years, calculate the annual benefit, calculate the cumulative benefit, and show the breakeven point.

The menu and spreadsheets are shown in the following table:

Figure 4-5 Revenue Stream Cost/BenfitAnalysis Spreadsheets

MAIN MENU OPTION	SPREADSHEET	DATA ENTRY
Benefit Year	Benefit Year 1	Yes
	Benefit Year 2	Yes
	Benefit Year 3	Yes
	Benefit Year 4	Yes
	Benefit Year 5	Yes
	Benefit Year 6	Yes
	Benefit Year 7	Yes
	Benefit Year 8	Yes
	Benefit Year 9	Yes
	Benefit Year 10	Yes
	Benefit Year 11	Yes
Chart	Breakeven Chart	No

The spreadsheet should be updated with actual cost and revenue values each year. The spreadsheet will recalculate the breakeven based on the new values.