



[www.npcresearch.com](http://www.npcresearch.com)

**Cost Analysis of  
Baltimore City, Maryland  
Drug Treatment Court  
Includes Outcome Findings,  
Cost Analysis and Summary  
and Conclusions, Only**

*Prepared by:*

**Dave Crumpton, M.P.A.**

**Jodi Brekhus, M.S.**

**Judy Weller, B.A.**

**Mike Finigan, Ph.D.**

**NPC Research, Inc.**

**5200 SW Macadam Ave., Ste. 420**

**Portland, OR 97239**

**Voice: (503) 243-2436**

**Fax: (503) 243-2454**

**E-mail contact:**

**crumpton@npcresearch.com**

*With funding from:*

**Administrative Office of the Courts of  
Maryland**

**Baltimore Substance Abuse Systems,  
Inc.**

**January 23, 2004**

## Table of Contents

	<u>Page</u>
Acknowledgments	5
Executive Summary	6
Introduction	13
Description of the Baltimore City Drug Treatment Court	17
Outcome Methodology and Sample Characteristics	23
Outcome Findings	27
Cost Analysis	39
Summary and Conclusions	66
Bibliography	70
Appendix A. The NPC Research Transaction Cost Analysis Approach	73
Appendix B. Estimation of the Baltimore City Drug Treatment Court and “Business As Usual” Criminal Justice System Cost Environments	90
Appendix C. Estimation of A Model of Victimization Costs	95
Appendix D. Estimation of Increases in Income Taxes Paid By BC-DTC Sample Graduates	97

## Tables

		<u>Page</u>
Table 1.	Cost-benefit summary	12
Table 2.	Comparative criminal histories of samples	26
Table 3.	Comparison of sample demographic characteristics	26
Table 4.	Average BCDTC program cost per participant	45
Table 5.	Total BCDTC program cost for BCDTC population	46
Table 6.	Annualized BCDTC program cost	47
Table 7.	"Business as usual" cost of BCDTC and comparison samples	52
Table 8.	"Business as usual" cost of BCDTC and comparison samples, District Court	53
Table 9.	"Business as usual" cost of BCDTC and comparison samples, Circuit Court	53
Table 10.	Local social service system financial benefits	63
Table 11.	Cost-benefit summary	65
Table A-1	Contributions of the theoretical and practical roots of the NPC Research approach to public program cost analysis	81
Table C-1	NPC Research's calculation of victimization cost for the Maryland drug treatment court cost analysis	96
Table D-1	NPC Research's estimation of income taxes paid by BCDTC sample graduates	97

## Charts

		<u>Page</u>
Chart 1.	Comparative re-arrests	8
Chart 2.	Comparative re-arrests	29
Chart 3.	Comparative re-arrests, District Court	29
Chart 4.	Comparative re-arrests, Circuit Court	30
Chart 5.	Comparative re-arrests, drug charges	31
Chart 6.	Comparative re-arrests, property charges	33
Chart 7.	Comparative re-arrests, crimes against person charges	34
Chart 8.	Comparative re-arrests, by charge type	36
Chart 9.	Cumulative "business as usual" cost of BCDTC and comparative samples	55
Chart 10.	Cumulative "business as usual" cost of BCDTC/ Circuit Court and comparison/ Circuit Court groups	56
Chart 11.	Cumulative victimization cost of BCDTC and comparison sample	59

## Diagrams

		<u>Page</u>
Diagram A-1	The NPC Research transaction cost analysis process	75

## Acknowledgments

This project was funded by the State of Maryland Judiciary, Administrative Office of the Courts and Baltimore Substance Abuse Systems, Inc.

NPC Research would like to express its gratitude to the many agencies and individuals who provided assistance for this project. In particular, the researchers appreciate the help provided by representatives of the following agencies:

- District Court of Maryland, Baltimore City
- Circuit Court of Maryland, Baltimore City
- Maryland Office of the Public Defender, Baltimore City
- Baltimore City State's Attorney's Office
- Maryland Department of Public Safety and Correctional Services ("DPSCS")
- DPSCS, Division of Parole and Probation
- DPSCS, Division of Pre-trial Detention Services
- DPSCS, Information Technology and Communications Division
- Baltimore Substance Abuse Systems, Inc.

NPC Research would also like to express special thanks for extraordinary support and patience to: Honorable Thomas Noel, Judge, Circuit Court of Maryland, Baltimore City; Honorable Jamey Weitzman, Judge, District Court of Maryland, Baltimore City; Honorable George Lipman, District Court of Maryland, Baltimore City; Honorable Miriam Hutchins, Judge, District Court of Maryland, Baltimore City; Honorable James W. Dryden, Judge, District Court of Maryland, Anne Arundel County; Gray Barton, Executive Director, Maryland Drug Treatment Court Commission; and, Caroline Cooper, Associate Director, Justice Programs Office, American University.

## Executive Summary

The drug court alternative model of adjudication is designed to impact the connection between substance abuse problems and criminal behavior. This is done by using the supervision of a drug court judge to assure that drug court program participants complete effective treatment programs, and avoid the use of drugs and criminal behavior. Since the drug court model is relatively new to local criminal justice practice (the first drug court opened in Miami, FL in 1989), two obvious questions are raised by policy analysts and policy makers considering this radical departure from “business as usual” adjudication: *How can the effectiveness of drug courts be assessed? What are the financial costs and benefits of drug courts?* The State of Maryland’s Administrative Office of the Courts engaged NPC Research, Inc. of Portland, Oregon to answer these questions concerning the Baltimore City Drug Treatment Court (“BCDTC”).

Since drug courts are components of criminal justice systems, the outcomes associated with them that are of most interest to state and local policy makers are criminal justice system outcomes. The criminal justice system outcome yardstick that is most commonly used to measure the effectiveness of drug courts is the recidivist record of drug court participants after they leave drug court programs. As a result, NPC Research examined the effectiveness of the BCDTC by comparing the post-program recidivist (recidivism defined as re-arrests) experience of a sample of individuals who had participated in the BCDTC program with the recidivist records of a sample of individuals with similar demographic characteristics and prior criminal records. The recidivist records of the two samples were examined over the same three-year period.

Drug courts have been promoted as a more rational use of scarce public resources for the adjudication of individuals whose criminal behavior is

connected to their drug abuse problems. Therefore, a second – and for many policy makers the most important – indicator of drug court success results from the application of rigorous cost-benefit analysis of the drug court's financial impact on criminal justice and other systems of public services. To this end, NPC Research used its Transaction Cost Analysis Approach (“TCA Approach”) to compare the cost experience related to the recidivist criminal records during the study period of the BCDTC and comparison samples. The researchers then compared the difference in the recidivist criminal justice system cost experience during the study period (referred to as the “business as usual” criminal justice system costs in this report) of the samples with the amount that NPC Research identified as having been “invested” in the BCDTC sample members in the BCDTC program.

Using the effectiveness criteria indicated in the preceding paragraphs, throughout 2003 the researchers from NPC Research analyzed the outcome effectiveness and financial cost-beneficial effects of BCDTC. To do this, the researchers worked with the BCDTC staff to identify a sample of BCDTC participants from 2000 and collected information regarding their criminal justice recidivism experience for a three-year period. The experience of the BCDTC sample was compared to that of a sample of individuals identified by the Maryland Department of Public Safety and Correctional Services who did not enter BCDTC. The researchers confirmed that the samples were statistically similar in terms of their prior criminal histories, age, gender, race and proximate criminal charges at time of BCDTC eligibility.

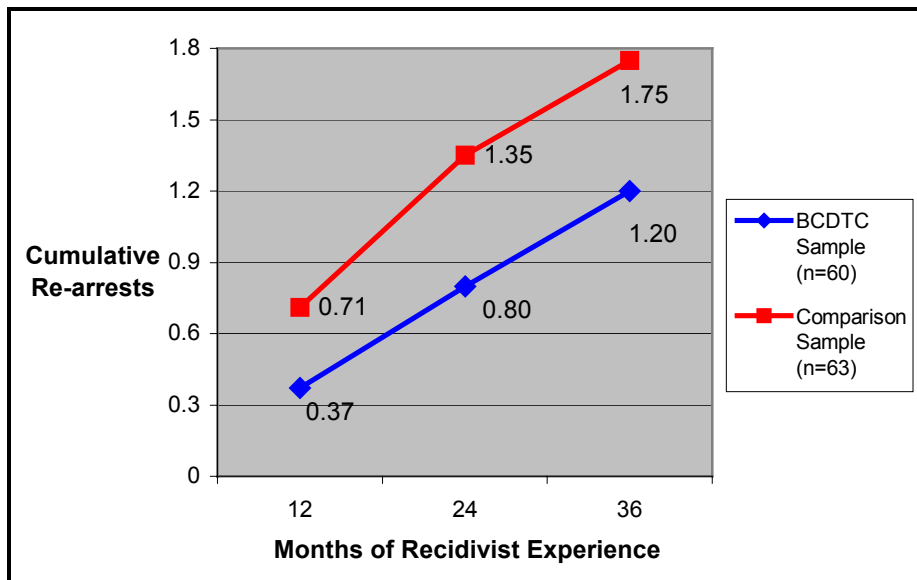
Using the criteria of drug court performance indicated above, in its analysis of the BCDTC program, NPC Research found the following:

1. Recidivism Findings. The researchers found that the BCDTC sample demonstrated substantially lower rates of recidivism (recidivism defined as re-arrests) as compared to the comparison sample. The following are highlights among the findings concerning the re-arrest records of the samples:

- The three-year re-arrest records showed the BCDTC sample was re-arrested an average of .55 or 31.4% fewer times (1.20 versus 1.75) than the comparison sample. Chart 1. compares the cumulative three-year re-arrest record of the BCDTC and comparison samples.

**Chart 1. Comparative re-arrests.**

Average number of cumulative re-arrests, BCDTC sample and comparison sample.



- The members of the BCDTC sample from the Circuit Court demonstrated a lower rate of re-arrests than did the BCDTC sample as a whole. The members of this group experienced an average of .86 re-arrests after three years - .68 or 44.2% less than members of the comparison group from Circuit Court.



- The BCDTC sample exhibited lower rates of re-arrests involving drug, property and crimes against person charges. Given the substance abuse abatement mission of BCDTC, it is notable that BCDTC sample members were re-arrested 35.3% fewer times (.75 versus 1.16) than the comparison sample on drug charges. Members of the BCDTC sample from Circuit Court were re-arrested on drug charges 62.3% fewer times than members of the comparison sample from Circuit Court. Since arrests on crimes against person charges involve larger victimization costs than other crimes types, it is also notable that members of the BCDTC sample were re-arrested on crimes against person charges 48.0% fewer times than were members of the comparison sample.

Details regarding the researchers' findings regarding the criminal justice system outcomes associated with the BCDTC program are found in the Outcome Findings section of the report.

2. Cost Findings. NPC Research assembled cost data in Maryland and Baltimore City to determine State and local criminal justice system costs. It used national research regarding victimization cost to estimate the victim cost experience of the samples. The researchers' findings regarding criminal justice system and victimization costs reflected the recidivist experiences of the samples:

- The researchers found that there were immediate criminal justice cost savings associated with individuals who had participated in the BCDTC program. After 12 months of their entry into the program members of the BCDTC sample had cost over \$3,000 less in "business as usual" criminal justice system costs as compared to the comparison sample

- **(NPC Research defines “business as usual” criminal justice system costs as representing all criminal justice system costs of the comparison sample and the criminal justice system costs of the BCDTC sample members after their tenure in the BCDTC program). This was a pattern that held throughout the three-year study period.**
- NPC Research found that over the course of the three-year study period the BCDTC sample incurred an average of \$3,393 or 24.2% less in “business as usual” criminal justice system costs than the comparison sample. Projected on the average of 758 BCDTC participants during the study period, a result of \$2,721,894 in total “business as usual” criminal justice system savings were found for the overall BCDTC program.
- Utilizing a victimization cost index produced by the National Institute of Justice, the researchers found that the BCDTC sample was responsible for an average of \$9,818 less in victimization costs than was the comparison sample. Projected on the average of 758 BCDTC participants during the study period, \$7,442,044 in victimization cost savings is seen.

The researchers also produced estimates regarding increased State and local income tax revenue and other local public service costs savings resulting from the BCDTC participants. It was estimated that BCDTC participants from the study period were responsible for \$125,426 in increased State and local income tax revenue and \$677,695 in other local public service savings.

3. Cost-benefit Calculation. NPC Research found a total of \$10,817,059 in financial benefits (see Table 1. Cost-benefit Summary on the next page) associated with the average of 758 BCDTC program participants during the study period. As compared to the \$7,943,753 BCDTC program cost for this group, this represents a three-year 136.2% “return” on the amount “invested” in the BCDTC program.

When the cost of the BCDTC program is subtracted from the gross benefit, the researchers found a net benefit of \$2,873,306 or 36.2% “return” on the \$7,943,753 invested in the BCDTC during the BCDTC sample’s tenure in the BCDTC program. As noted above, the researchers found that, as result of immediate reductions in the rate of recidivism for the BCDTC sample as compared to the comparison sample, immediate savings in criminal justice system cost were realized – approximately \$3,000 per participant within 12 months of entry into the BCDTC program. If the pattern of recidivism of the samples that the researchers found holds in the future, the researchers estimate that the BCDTC “investment” would be recouped in approximately four (4) years after the entry of participants in the BCDTC program.

Table 1. on the next page summarizes the financial benefits and costs that NPC Research found for the BCDTC program. Details regarding the researchers’ cost analysis findings and financial benefits and costs calculations are found in the Cost Analysis section of the report.

In summary, the researchers found that, in terms of recidivist records and financial cost-beneficial effects, BCDTC program participants demonstrated positive outcomes as compared to similar individuals in the Baltimore City criminal justice system.

**Table 1. Cost-benefit Summary.**

Summary of the cumulative three-year financial benefits of the BCDTC as compared to the costs of BCDTC.

1. Criminal Justice System Costs Savings	\$2,571,894
2. Victimization Cost Savings	7,442,044
3. Increased State, Local Income Tax	125,426
4. Other State and Local Public Systems Savings	677,695
5. <i>Gross Benefits</i>	\$10,817,059
6. <i>Gross Benefit Per BCDTC Participant</i>	\$14,271
7. Amount "Invested" in BCDTC During BCDTC Sample Tenure	\$7,943,753
8. Amount "Invested" Per BCDTC Participant	\$10,480
9. <i>Gross Financial Benefit "Return" on BCDTC "Investment"</i>	136.2%
10. Net Benefit (Gross Benefit minus Amount "Invested")	\$2,873,306
11. Net Benefit Per BCDTC Participant	\$3,791
12. <i>Net Financial Benefit "Return" on BCDTC "Investment"</i>	36.2%

## Introduction

NPC Research, Inc., funded by grants from the Maryland Judiciary's Administrative Office of the Courts and Baltimore Substance Abuse Systems, Inc., began a cost study of the Baltimore City Drug Treatment Court ("BCDTC") in the fall of 2002. NPC Research was recruited for this work because of its extensive national experience in performing drug court program process, outcome and cost evaluations. In addition to the examination of the cost consequences of the BCDTC, NPC Research also performed a cost analysis of the Anne Arundel County Drug Court. The work in Anne Arundel County is presented as a separate report.

### **Description of Baltimore City**

With an estimated population of 638,614 in 2002, Baltimore City is the largest city in Maryland.<sup>1</sup> According to the U.S. Census Bureau, Baltimore City's population in 2000 was 31.6% White and 64.3% Black or African American.<sup>2</sup> Per capita personal income in 2002 was \$26,702, with a median household income of \$30,550. In 2000 the poverty rate in Baltimore City was 22.9% as to compared to 8.5% for the State of Maryland and a national rate of 11.7%. With over 100,000 workers each, the government and education/health services employment sectors are the largest in Baltimore City. This reflects the fact that Baltimore City is home to the offices of many State, local and Federal agencies and the University of Maryland and Johns Hopkins University Hospitals.

---

<sup>1</sup> See the Maryland Department of Planning website at [www.mdp.state.md.us](http://www.mdp.state.md.us).

<sup>2</sup> See U.S. Census Bureau website at [www.census.gov](http://www.census.gov).

### **Orientation to the Project**

NPC Research's approach to acquiring information regarding the operation and costs of BCDTC began with preliminary information provided by the BCDTC Coordinator and a Baltimore City State's Attorney Office ("BC-SAO") representative. The first set of information that the researchers received concerned overall BCDTC processes, drug court eligibility and suggestions for selecting a comparison sample.

NPC Research staff members made site visits to Baltimore City in February, June and July 2003. During these visits they obtained activity and cost information related to the roles of each of the agencies that provide support for the BCDTC program and/or are essential to the "business as usual" criminal justice system. The researchers also established contacts needed to obtain criminal justice, treatment and other data necessary to perform the analyses involved in the project. During their site visits the researchers also attended sessions of the District Court and Circuit Court BCDTC sessions.

Throughout the duration of the project, information was gathered from agency contacts through telephone conversations and electronic correspondence. The researchers found all agency contacts to be responsive and helpful.

### **Baltimore City and State of Maryland Agency Assistance For the Project**

Agencies that provided information or other forms of support for NPC Research's investigation in Baltimore City are listed below. The nature of the assistance provided by each agency is also indicated.

- *Baltimore City Drug Treatment Court (“BCDTC”)*: Representatives of BCDTC assisted the researchers in understanding the organization and processes associated with BCDTC, in accessing criminal justice system and treatment data, and in identifying resources associated with BCDTC and “business as usual” adjudication of cases. They also provided the names and contact information for a number of State of Maryland and Baltimore City agency representatives.
- *State of Maryland, Administrative Office of the Courts (“AOC”)*: A representative of the AOC provided information regarding caseload and cost factors for the District Court. He also provided general advice and assistance to the researchers in the pursuit of many of the project activities.
- *Baltimore City State’s Attorney’s Office (“BC-SAO”)*: BC-SAO staff members provided information regarding the BCDTC caseload and BC-SAO resource commitments to BCDTC and District Court and Circuit Court “business as usual” adjudication of cases.
- *State of Maryland Office of the Public Defender, Baltimore City (“OPD”)*. OPD representatives assisted the researchers in understanding the activities and resources committed by OPD to BCDTC and “business as usual” adjudication of cases.
- *Maryland Department of Public Safety and Correctional Services (“DPSCS”), Division of Pre-trial Detention and Services (“Pre-trial Detention”)*: A representative of Pre-trial Detention provided the researchers with sample incarceration data and information regarding the resource commitments of DPSCS to booking, incarceration and transportation to court

- *Maryland Department of Public Safety and Correctional Services ("DPSCS"), Division of Parole and Probation ("Parole and Probation") and Information Technology and Communications Division ("ITCD")*: Parole and Probation assisted the researchers in the selection of comparison samples for the study. Parole and Probation and ITCD also provided a variety of individual level criminal justice system data to the researchers.
- *Baltimore Substance Abuse Systems, Inc. ("BSAS")*: BSAS, a contractor for the Baltimore City Health Department, provided individual level treatment and cost data for the samples.

The researchers also made extensive use of the FY2003-2004 State of Maryland operating budget. In addition to providing well-organized financial information regarding the activities of the State agencies of interest to the researchers, in many instances the budget also includes details regarding the nature and extent of agency resource commitments to organizational activities. The researchers also found that the budget includes useful summaries of the number of employees ("FTE") assigned to agencies. The budget can be found in the website of the Maryland Department of Budget and Management at [www.dbm.maryland.gov](http://www.dbm.maryland.gov).



## **Description of the Baltimore City Drug Treatment Court**

The description of the Baltimore City Drug Treatment Court included in this section is largely taken from information provided to NPC Research by the BCDTC Coordinator.

The BCDTC was established in 1994. BCDTC clients are referred in one of two ways: (1) Circuit felony cases supervised by Maryland Department of Public Safety and Correctional Services, Division of Parole and Probation ("Parole and Probation") and (2) District Court misdemeanor cases supervised by Parole and Probation. Both of these approaches for referral are post-conviction, such that prospective BCDTC participants enter the program as a condition of probation.

Pre-trial criminal detainees who are housed in the Baltimore City Detention Center are considered for the program. For misdemeanor cases (which will be heard in the Baltimore City District Court), the Baltimore City Detention "Central Booking" Center screens all newly admitted detainees for eligibility for the BCDTC program. The initial eligibility requirements include: (1) the offender resides in Baltimore City, (2) there are no current/previous arrests for violent offenses, (3) defendant is at least eighteen years of age. Defendants who meet these initial screening criteria are advised of the program components and requirements.

Defendants who express interest in the program meet with the Public Defender to discuss their possible participation in the BCDTC program. If, after this meeting, the defendant remains interested in the BCDTC program, record checks are completed and reviewed by the State's Attorney. A representative of the Baltimore City State's Attorney's Office meets with a representative of the Maryland Office of the Public Defender to determine which defendants might

be best served by the program. Among this subset of defendants, the Addiction Severity Index (ASI) is administered to assess motivation and need for treatment. The Level of Service Inventory, Revised ("LSI-R") is administered to assess criminogenic needs of the prospective program participant. Parole and Probation uses the LSI-R to develop a case management plan to meet the identified needs of program participants.

Data regarding drug history, medical history, employment status, as well as other aspects of the defendants' family and social relations are also collected from prospective BCDTC program participants. Upon the completion of these assessments, defendants are recommended for the program or returned to "business as usual" processes of adjudication. For eligible defendants specific services tailored to meet the defendants' needs (e.g., vocational training) maybe recommended. The assessor's recommendations are submitted to the State's Attorney's Office and Office of the Public Defender for further review. The State's Attorney's Office then submits the names of eligible defendants to the BCDTC docket. An Assistant State's Attorney, Assistant Public Defender, Parole and Probation Case Manager, and the defendant appear before the BCDTC Judge to discuss the case. The judge renders the final decision as to the offender's placement into the BCDTC program. For misdemeanor cases, the total processing time between arrest and placement into the program is generally between 14-18 days.

The process for felony cases (which will be heard in Circuit Court) is similar to that described above. However these cases are screened for eligibility for the drug court at the time of the arraignment hearing rather than through Central Booking. Also, felony cases are not differentiated by level of risk as they are in the District Court.

### **Treatment Provision**

The BCDTC requires that participants receive treatment from one of 15 providers located throughout the city of Baltimore. As a contractor for the Baltimore City Health Department, Baltimore Substance Abuse Systems, Inc. ("BSAS") coordinates the provision of substance abuse treatment services among providers.

Participants remain in treatment until they successfully graduate from the program or are terminated for noncompliance with the BCDTC requirements (e.g. failing to report to treatment for 30 consecutive days). The determination as to which facility a defendant is assigned is based on the type of treatment required, the treatment center's availability, and the location of the facility in relation to the defendant's residence.

### **Supervision**

All defendants enter the BCDTC under "intensive" supervision and are required to attend progress hearings before a BCDTC Judge once every four weeks. In response to issues that arise regarding the behavior of program participants, more frequent progress hearings may be required.

Parole and Probation provides general supervision for the BCDTC program and reports to BCDTC Judges at progress hearings. The following are the "Supervision Contact Standards" used by Parole and Probation:

1. Face to face contacts:
  - Three face to face meetings between the program participant and his or her Parole and Probation Agent are required per month, one of which must be in the community.

- All clients are seen once or twice weekly, or two times per month (depending upon their phase status in the BCDTC program) in the Parole and Probation office after urinalysis (U/A) - usually by an agent on duty but not necessarily the client's agent.
- A face to face meeting is required within three working days of receipt of a positive U/A or if the client fails to report for a U/A.
- A face to face meeting is required within three working days of receipt of information that the offender is no longer active in a program component.
- An additional office meeting is conducted if, after two attempts, the Parole and Probation Agent is unable to achieve a community meeting with the offender.

2. Home visits:

- A verifying home visit must be conducted within 20 working days of receipt of the case or a notice that program participant has changed residence.
- Two home visits per month will also be conducted.

3. Employment verification:

- The employment status of program participants is verified monthly.

4. Special condition verification:

- Parole and Probation Agents verify the program participation of participants monthly.

**Urinalysis.**

Parole and Probation administers U/As according to the following schedule for BCDTC participants:

<b>Phase</b>	<b>Duration</b>	<b>Frequency</b>
I	Months one - three	Two times per week
II	Months four -six	One time per week
III	Months seven - completion	Two times per month

The frequency of U/As indicated in this schedule varies depending on the program participant's test results. Any decrease in the frequency of U/As must be approved by the BCDTC judge. All participants are initially required to submit two urine samples per week. After completing one month with no positive tests, participants generally graduate to Phase II testing in which tests are completed once every week. After two consecutive months of “clean” tests, participants progress to Phase III testing. During Phase III, clients are required to complete one U/A, two times per month, and will continue at this rate for the duration of the program. Note that the successful completion of a given phase does not always advance the program participant to the next level. Parole and Probation Agents and/or the participants may feel that decreasing testing frequency would lead to drug relapse.

**Noncompliance**

Compliance with the BCDTC program is reviewed during the program participants' progress hearings. Prior to the hearings Parole and Probation Agents contact treatment facilities to request participant tracking forms which detail program participant performance. These forms, in addition to U/A results and criminal record checks, are presented to BCDTC Judges.

Noncompliance with the program is handled through graduated sanctions recommended by the Parole and Probation Agent and approved by the BCDTC Judge. Sanctions for noncompliance usually involve increased contacts with Parole and Probation Agents, increased status hearings, increased U/A frequency, and short periods of confinement in jail. Severe violations such as a new felony conviction will generally lead to a violation of probation ("VOP") hearing. If found guilty, program participants face imposition of their original sentences at the time of their BCDTC eligibility determination.

### **Graduation**

Upon satisfactory completion of the prescribed treatment program and compliance with BCDTC supervisory requirements, program participants become eligible for graduation. The decision to allow the program participant to graduate must be approved by the Court, State's Attorney's Office and the Office of the Public Defender. A graduation ceremony is held to mark the occasion, and defendants' friends and family are encouraged to attend.

## Outcome Methodology and Sample Characteristics

In this section, the methods involved in collecting data to evaluate outcomes associated with the BCDTC program will be described. Sample characteristics will also be summarized. Methods associated with the cost analysis portion of the project will be described in the Cost Analysis section of this report.

### **Sample Selection**

#### BCDTC Sample Selection

**District Court.** The Baltimore Drug Treatment Court Coordinator provided NPC Research with 98 names and identifying information for individuals who entered BCDTC between January 2000 and June 2000. From this list the researchers selected a random sample of 32 names. This was accomplished using a systematic random sampling technique wherein the list was sorted by date of program entry and every third name on the list was selected for the sample.

**Circuit Court.** From the population of individuals who entered the BCDTC program in 2000, the BCDTC Coordinator provided the researchers with 76 names, their identifying information, and current status. From this list, a random sample of 38 names was selected through a systematic stratified random sampling technique – the list was sorted by current status and then by date of program entry; every second name was selected. The sample proportions of those who were still active, those who had graduated, who had failed to appear (resulting in the issuance of a bench warrant) and those who had violated probation mirrored the BCDTC population proportions.

## Comparison Sample Selection

**District Court.** Judge Jamey Weitzman of Baltimore City District Court provided the researchers with the eligibility criteria for BCDTC/District Court program participation<sup>3</sup> The Maryland Department of Public Safety and Correctional Services (DPSCS), Division of Parole and Probation (“Parole and Probation”) used these criteria to query the State’s Criminal Justice Information System (“CJIS”) to identify misdemeanor probation and probation before judgment cases that were under Parole and Probation supervision and prosecuted in Baltimore City District Court in between January 2000 and June 2000. The comparison sample members were screened according to age (older than 18) and the drug court eligibility offense arrest. A list of 1,167 resulted, from which a random sample of 40 cases was selected.

**Circuit Court.** The researchers once again used the BCDTC eligibility criteria provided by Judge Weitzman to select the comparison sample. Parole and Probation queried CJIS to select felony probation and probation before judgment cases that were under Parole and Probation supervision and prosecuted by Baltimore City Circuit Court during 2000. Again, as was the case with the District Court comparison sample, the Circuit Court comparison sample was screened by age of the offender (older than 18) and the drug court eligibility arrest offense. A list of 906 valid cases was identified and a random sample of 40 cases were selected.

**Sample Adjustments – Matching Criminal Histories.** As the result of invalid identification numbers that made it impossible to retrieve arrest, jail, probation data, four of the 32 District Court/BCDTC sample cases and one of the 40 District Court comparison sample were eliminated from the samples. Likewise, because

---

<sup>3</sup> The eligibility criteria are primarily based on the BCDTC candidate's criminal justice system history. It is discussed more fully in the Description of Baltimore City Drug Treatment Court section.



of problems with identification numbers that made it impossible to obtain all recidivist criminal justice system data, one Circuit Court/BCDTC sample member was removed from the sample.

To assure that the samples were commensurable, the researchers compared the criminal justice system histories of the samples for three years prior to drug treatment court eligibility arrest. As a result, three District Court/BCDTC sample members and eleven District Court/comparison sample members were removed from the samples. This resulted in a District Court/BCDTC sample size of 25 and a District Court/comparison sample of 28 members. This review of the three-year prior criminal justice records of the samples also resulted in the removal of two Circuit Court/BCDTC sample members and fifteen members of the Circuit Court/comparison sample from the samples. The Circuit Court/BCDTC and Circuit Court/comparison samples were thus reduced to a total of 35 members, each.

### **Sources of Data**

A representative of Parole and Probation provided NPC Research with demographic information for all sample members. The BCDTC Coordinator provided the researchers with BCDTC program participation data.

DPSCS, Information Technology and Communications Division ("ITCD") provided the researchers with arrest dates and charges for all sample members. Parole and Probation provided BCDTC eligibility and probation dates and offenses. Parole and Probation also provided probation time served. DPSCS, Division of Pretrial Detention and Services ("Pre-trial Detention") provided the number of days of incarceration for each sample member.

Baltimore Substance Abuse Systems, Inc. ("BSAS") provided NPC Research with substance abuse treatment information for all sample cases.

**Sample Characteristics**

NPC Research compared the prior criminal history, basic demographics, and arrest charge at time of BCDTC eligibility characteristics of the samples. Table 2. summarizes the prior criminal histories (defined as number of arrests) of the samples.

**Table 2. Comparative criminal histories of samples.**

Average number of arrests for the samples, three years prior to BCDTC eligibility date. (p > .05)

Sample	Mean Prior Arrests
Combined BCDTC (n=60)	3.87
Combined Comparison (n=63)	3.25
District Court/BCDTC (n=25)	3.92
District Court/Comparison (n=28)	3.00
Circuit Court/BCDTC (n=35)	3.83
Circuit Court/Comparison (n=35)	3.46

Table 3. summarizes the basic demographic characteristics of the samples.

**Table 3. Comparison of sample demographic characteristics.** (p > .05)

Dimension	Combined Samples				District Court				Circuit Court			
	BCDTC		Comparison		BCDTC		Comparison		BCDTC		Comparison	
Gender	65.0% Male	35.0 Female	76.2% Male	23.8% Female	56.0% Male	44.0% Female	67.9% Male	32.1% Female	71.4% Male	28.6% Female	82.9% Male	17.1% Female
Race	9.4% White	90.6% Black	6.3% White	93.7% Black	14.3% White	85.7% Black	14.3% White	85.7% Black	6.3% White	93.8% Black	0% White	100.0% Black
Age	40.3 Years of age		37.6 years of age		39.9 years of age		37.2 years of age		40.7 years of age		38.0 years of age	

## Outcome Findings

The drug court model is promoted under the assumption that it has efficacious impacts on the criminal activity of individuals who successfully meet the program treatment and other requirements. NPC Research was not engaged to evaluate the effectiveness of the supervision and treatment elements of the BCDTC program. However, to perform a cost analysis of the program it was necessary for the researchers to pursue basic analyses of the criminal justice system and treatment experiences of the study samples. As a result, NPC Research examined the three-year criminal justice system experience of the members of BCDTC and comparison samples according to several dimensions. The three-years of data analyzed began at the date of the qualifying arrest for both samples.

The researchers acquired data regarding the incarceration, probation and treatment records of the samples. The results of this examination are summarized in the following subsections. It should be emphasized that the results and analyses offered regarding the BCDTC sample involve all members of the sample – whether they graduated from the program or not.

In considering the outcome findings reported by the researchers it may also be appropriate for the reader to keep in mind the particular challenges that BCDTC faces. In its experience evaluating drug courts around the United States NPC Research has encountered few, if any, that deal with individuals with the extensiveness of criminal histories and drug abuse problems evidenced in Baltimore City. This assessment is reflected in criminal history and demographic characteristics information provided by BCDTC. In a sample of BCDTC participants it is was found that that this sample had criminal histories that included an average of 12 arrest prior to BCDTC entrance. 89.1% of the sample

used heroin as their primary or secondary drug of choice. 52.7% of the group were daily users of crack, cocaine or heroin.

NPC Research found differences between the BCDTC group and the comparison group were generally significant beyond the  $p=.05$  level. In some cases, at the 36 month time point, the differences were significant beyond the  $p=.08$  level. Crime against person charges recidivism was so small for both groups that in spite of similar positive trends for the BCDTC, the results were non-significant. Specific significance levels are available upon request.

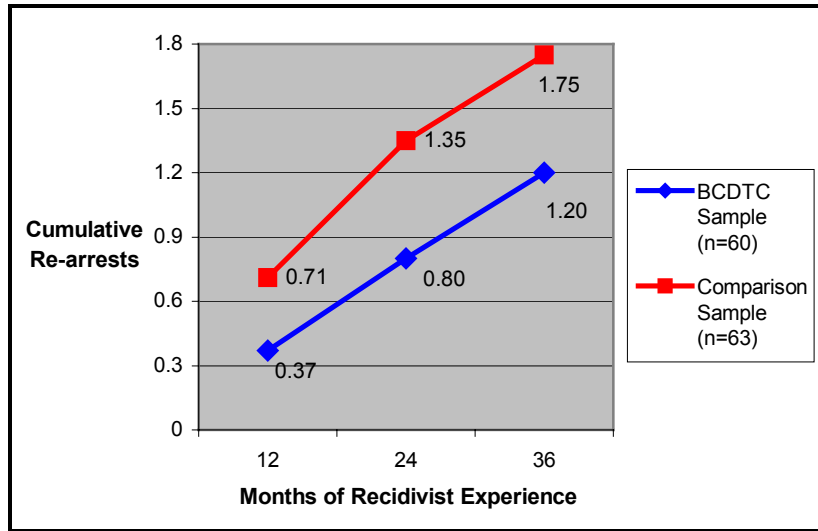
### **Total Arrests**

NPC Research found that BCDTC participants had notably fewer average recidivist (recidivism defined as re-arrests) episodes than did the comparison sample. At six, twelve, twenty-four and thirty-six months after the drug court qualifying arrest date the researchers found a notable difference in the average number of cumulative re-arrests between the samples. Compared to the comparison sample, the BCDTC sample experienced fewer average re-arrests as follows: at 6 months, .10 versus .40, or 75.0% less; at 12 months, .37 versus .71, or 47.9% less; at 24 months, .80 versus 1.35 or 40.7% less; and at 36 months, 1.20 versus 1.75, or 31.4% less. The difference in average cumulative re-arrests at each timeframe ranged between .30 and .55, with a difference of .55 found at 24 and 36 months. Chart 2. on the next page demonstrates the difference in the cumulative average re-arrest experience of the samples.

In addition to its lower rates of average re-arrests, the BCDTC sample was found to have a lower percentage of sample members who had been re-arrested. During the three-year study period the researchers found that 57.7% of the BCDTC sample was re-arrested as compared to 73.0% of the comparison sample.

**Chart 2. Comparative re-arrests.**

Average number of cumulative re-arrests, BCDTC sample and comparison sample.

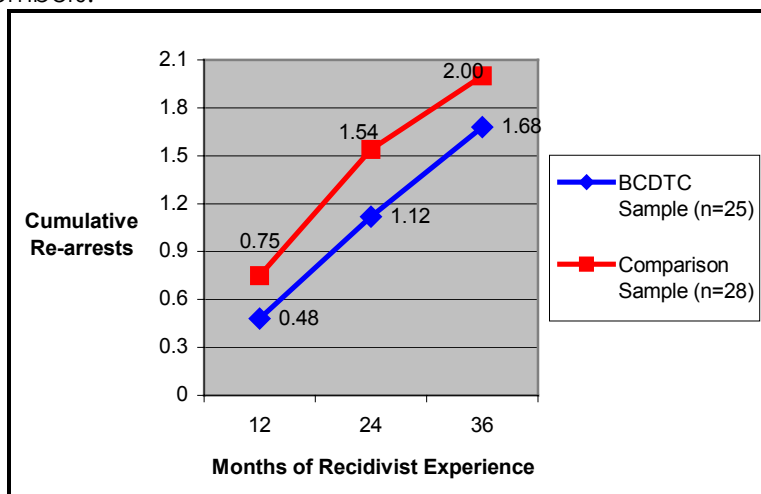


District Court

The average number of re-arrests experienced by District Court BCDTC sample members was lower than that of members of the comparison sample from District Court. After 36 months the District Court BCDTC sample members had been re-arrested an average 1.68 times as compared to an average of 2.00 times for the District Court comparison sample – a difference of 16.0%. Chart 3. demonstrates the three-year difference in experience of the sample members from District Court.

**Chart 3. Comparative re-arrests, District Court.**

Average number of cumulative re-arrests, District Court BCDTC sample and comparison sample members.

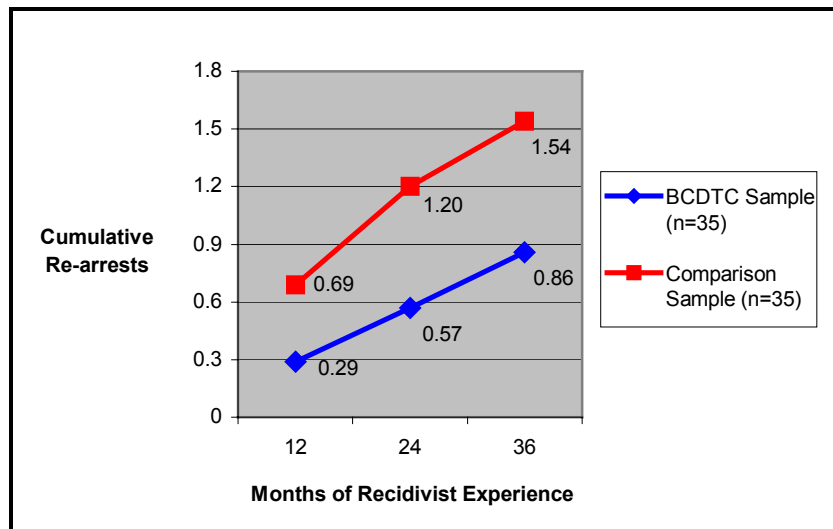


## Circuit Court

Members of the BCDTC sample from Circuit Court experienced lower rates of re-arrest than the overall BCDTC sample. The number of recidivist arrests experienced by Circuit Court BCDTC sample members was also substantially lower than that of members of the comparison sample from Circuit Court. After 36 months the Circuit Court BCDTC sample members had been re-arrested a cumulative average of .86 times as compared to 1.54 for members of the comparison sample from Circuit Court – a difference of 44.2%. Chart 4 demonstrates the difference between sample members from Circuit Court.

**Chart 4. Comparative re-arrests, Circuit Court.**

Average number of cumulative re-arrests, Circuit Court BCDTC sample and comparison sample members.



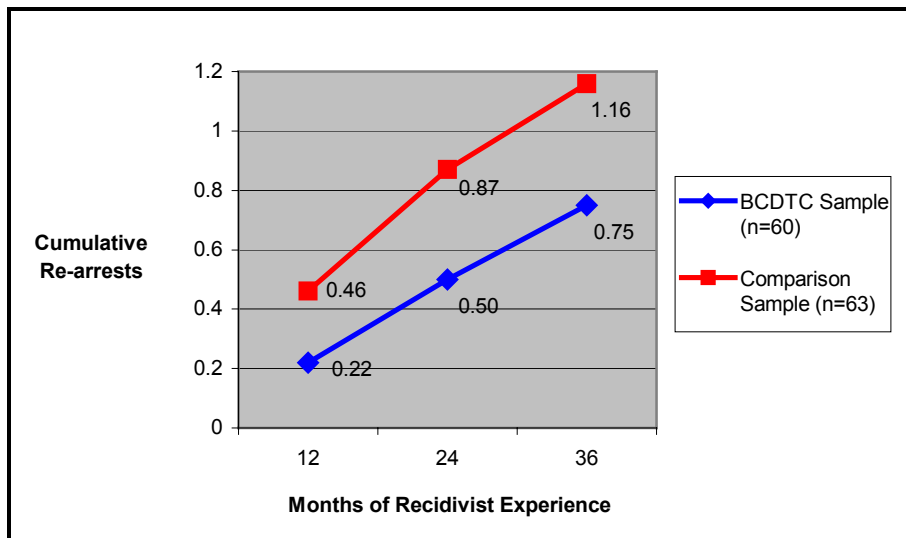
## **Drug-related Re-arrests**

Since drug offenses were the most frequent proximate charges for individuals who entered BCDTC, and given the substance abuse abatement mission of BCDTC, NPC Research believed that it would be of particular interest to examine the drug charge recidivism records of the samples. Similar to the pattern that the researchers found for total re-arrests, they found a record of

fewer average re-arrests on drug charges for members of the BCDTC sample than for the comparison sample. After 36 months members of the BCDTC sample were found to have been re-arrested on drug charges an average of .75 times as compared to 1.16 times for the comparison sample – a difference of 35.3%. The comparative experience of the BCDTC and comparison samples regarding re-arrests on drug charges is demonstrated in Chart 5.

**Chart 5. Comparative re-arrests, drug charges.**

Average number of cumulative re-arrests on drug charges, BCDTC sample and comparison sample members.



District Court

Members of the BCDTC sample from District Court experienced fewer re-arrests on drug charges than comparison sample members from District Court. After 36 months this group had experienced 1.24 drug charge re-arrests as compared to 1.29 for the comparison sample members from District Court – a 3.9% difference.

### Circuit Court

Members of the BCDTC sample from Circuit Court experienced substantially fewer re-arrests on drug charges than the overall BCDTC sample and the members of the comparison sample from Circuit Court. After 36 months this group had experienced an average of .40 re-arrests on drug charges as compared to 1.06 for comparison sample members from Circuit Court – a 62.3% difference.

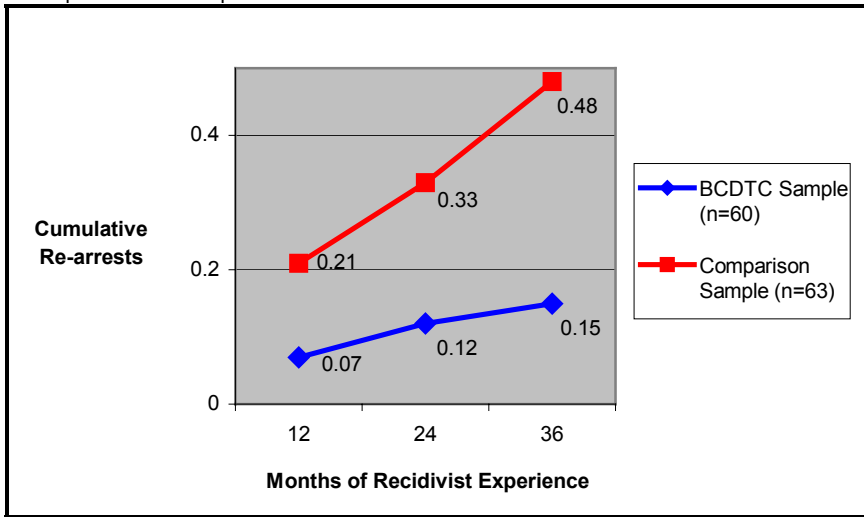
### **Re-arrests For Property-related Offenses**

If BCDTC is successful in reducing drug abuse, illicit activities associated with the support of drug abuse should be reduced for program participants. To test this assumption, NPC Research compared the experience of the BCDTC sample with that of the comparison sample concerning re-arrests on property crime-related charges. The researchers found that the BCDTC sample had a much lower rate of re-arrests on property charges than did the comparison sample. After 36 months the BCDTC sample had been re-arrested on property charges on average .13 times as compared to .48 times for members of the comparison sample – a difference of 68.8%. Throughout the study period (at 6, 12, 24, and 36 months) the BCDTC sample was re-arrested no more than one-third as many times on property charges as was the comparison sample. These results are summarized in Chart 6.



**Chart 6. Comparative re-arrests, property charges.**

Average number of cumulative re-arrests on property charges, BCDTC sample and comparison sample members.



District Court

Members of the BCDTC sample from District Court were found to have been re-arrested on property charges at a rate substantially less than that of comparison sample members from District Court. After 36 months the BCDTC/District Court group had been re-arrested on property charges on average .16 times versus .57 times for the comparison members from District Court – a difference of 71.9%.

Circuit Court

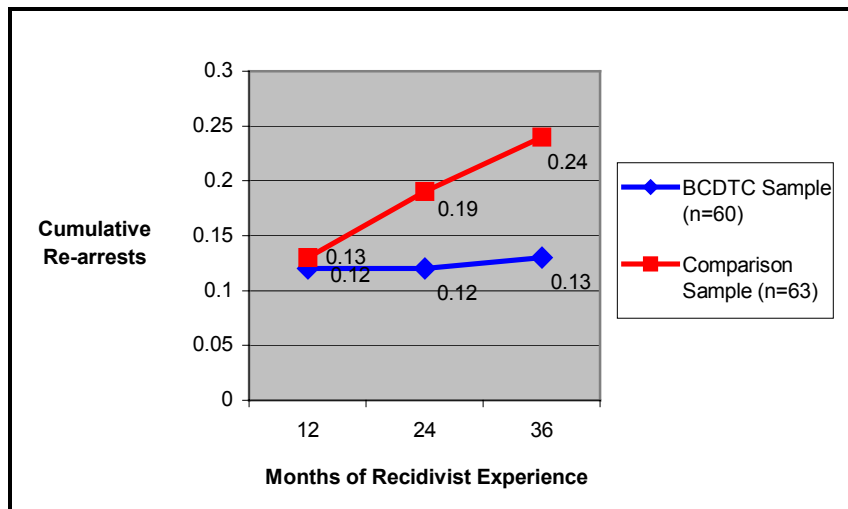
The researchers found that members of the BCDTC sample from Circuit Court also experienced re-arrest records on property charges at a rate much lower than that of members of the comparison sample from Circuit Court. After 36 months the BCDTC/Circuit Court group had been re-arrested on property charges on average .11 times as compared to the comparison/Circuit Court group – a difference of 70.3%.

### **Re-arrests on Crimes Against Person-Charges**

If BCDTC is successful in dealing with the drug abuse problems of its participants, long-term improvements should be seen among other dimensions of personal responsibility and behavior. Re-arrests for crimes against person charges (such as assault) is one such dimension. To test this assumption, NPC Research examined the recidivist records of the samples in terms of re-arrests on crimes against person charges. The researchers found that after 36 months the BCDTC sample had been re-arrested on such charges an average

**Chart 7. Comparative re-arrests, crimes against person charges.**

Average number of cumulative re-arrests on crimes against person charges, BCDTC sample and comparison sample members.



of .13 times as compared to .24 times for members of the comparison sample – a difference of 48.0%. In light of the substantial impact of crimes against person on victimization costs, this finding is of particular note. It is also notable that the difference in experience between the samples increased over the three-year period. These results are summarized in Chart 7 on the preceding page.

### District Court

The researchers found that the rate of re-arrests on charges of crimes against person for this group was lower than that of the members of the comparison sample from District Court. After 36 months the BCDTC/District Court group had experienced an average of .24 re-arrests on crimes against person as compared to .29 for the comparison/District Court group – a difference of 17.2%.

### Circuit Court

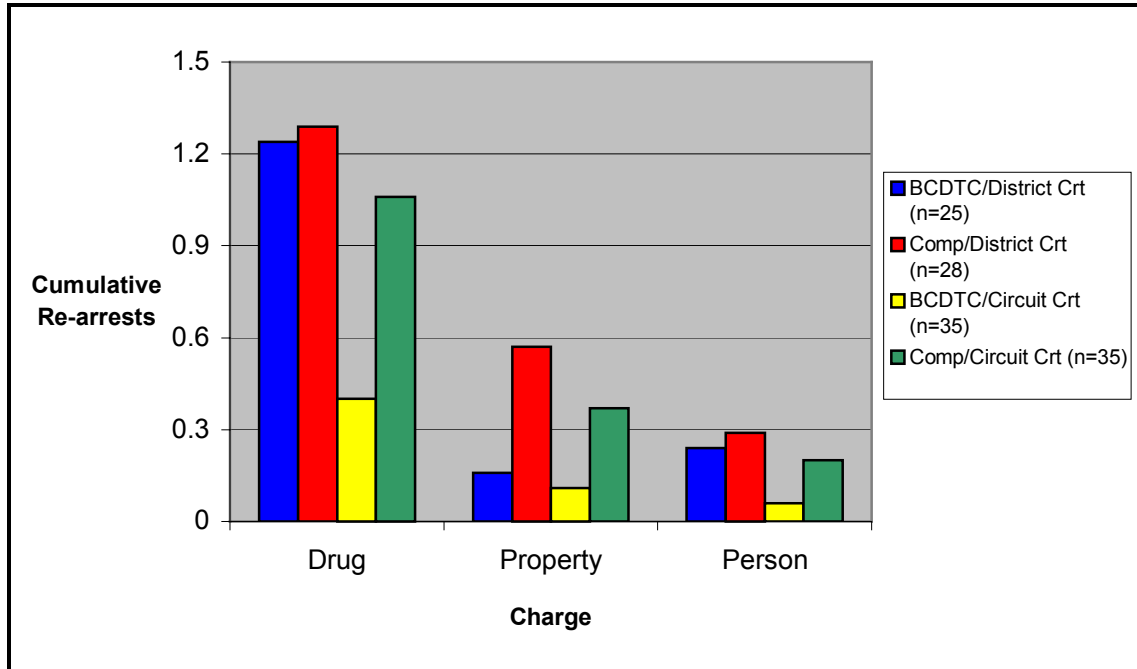
The members of the BCDTC sample from Circuit Court were found to have been re-arrested on crimes against person charges at a much lower rate than the BCDTC sample as a whole and the comparison/Circuit Court group. After 36 months the BCDTC/Circuit Court group had experienced an average of .06 re-arrests on crimes against person charges as compared to .20 for the comparison/Circuit Court group – a difference of 70.0%.

### Summary of Recidivist Experience By Charge

To graphically demonstrate the differences among the study groups on the different dimensions of crime discussed in the preceding paragraphs, Chart 8. on the next page describes the cumulative re-arrests records after 36 months on drug, property and crimes against person charges for the BCDTC/District Court, comparison/District Court, BCDTC/Circuit Court, and comparison/Circuit Court groups.

**Chart 8. Comparative re-arrests, by charge type.**

Average number of cumulative re-arrests , on drug charges, property charges and charges involving crimes against person, BCDTC/District Court, comparison/District Court, BCDTC/Circuit Court, and comparison/Circuit Court groups.



**Jail Time Served**

The outcome associated with recidivist episodes that consumes the most extensive public resources is incarceration. As a result, the researchers identified the number of jail days associated with recidivist episodes served by members of each sample.

NPC Research found that members of the BCDTC sample experienced slightly fewer days of incarceration associated with recidivist episodes than did members of the comparison sample. Members of the BCDTC sample were incarcerated an average of 62.4 days as compared to 63.7 days for the comparison sample. However, the researchers found a substantial difference between the experiences of members of the BCDTC sample from Circuit Court as compared to BCDTC sample members from District Court. The Circuit Court

BCDTC sample members experienced an average of 79.5 days of incarceration as compared to 89.4 days for comparison sample members from Circuit Court. BCDTC sample members from District Court experienced an average of 40.2 days of incarceration as compared to 28.4 days for comparison sample members from District Court. Since the researchers did not perform a process evaluation or otherwise acquire individual level data that could inform an analysis, they are unable to offer an explanation of the difference in the incarceration experiences of the samples. However, it is reasonable to assume that the higher average number of days of incarceration for the BCDTC/District Court group is driven by the fact that individuals who were not successful in completing BCDTC experienced harsher sentences as the result of post-program re-arrest episodes.

### **Probation Time Served**

Another important measure of the impact on the local criminal justice system by the samples considered in this analysis is the amount of time that sample members spent on probation. The Maryland Division of Parole and Probation provided NPC Research with records of the number of days that each member of the BCDTC and comparison samples spent on probation.

The researchers found that members of the BCDTC sample were on probation an average of 676.6 days, while members of the comparison sample served probation time for an average of 670.6 days. It should be noted, however, that while they participated in the BCDTC program, members of the BCDTC sample were on probation. Taking this into account, the researchers found that, during the three-year study period, outside of their experience in the BCDTC program, members of the BCDTC sample spent an average of approximately 103 days

(6.0 days per month) on probation. This rate is less than one-third of the rate (18.6 days per month) experienced by the comparison group.

### **Treatment Received**

One of the prominent objectives of the drug court model is to assure that drug court participants receive substantially more substance abuse treatment than they would otherwise receive in the criminal justice system. The assumption is that increased drug abuse treatment will result in lower rates of criminal behavior.

NPC Research obtained three years of substance abuse treatment records from Baltimore Substance Abuse Systems, Inc. for both samples. Records were obtained for the following modalities of treatment services: residential; outpatient; intensive outpatient; detox; and, methadone maintenance. The researchers found that the BCDTC sample received substantially more treatment than the comparison sample. The BCDTC sample members spent an average of 81.5 days in substance abuse treatment as compared to an average of 32.1 days for the comparison sample – a difference of 153.9%.

It is of particular note that there was an even greater difference between the three-year experiences of the samples regarding the amount of outpatient treatment that they received. BCDTC participants received an average of 72.9 days of outpatient treatment as compared to 12.5 days for the comparison sample – a difference of 484.4%. Since NPC Research has found that outpatient treatment can be a cost-effective form of substance abuse treatment, this finding is notable.

# Cost Analysis

## Introduction

The analysis of the costs and benefits of criminal justice system programs such as the BCDTC is a complex undertaking. Researchers must consider the organizational structures and financial management systems of multiple jurisdictions and agencies to identify the germane activities of the organizations under consideration and the financial consequences of such. The analytic task is complicated by the fact that the organizations being studied have different budget systems and diverse (and sometimes non-existent) forms of administrative record keeping. Despite these challenges, in this report NPC Research has sought to present the concepts involved in its analysis in a digestible form that can be understood by the reader.

The primary purpose of the analysis represented in this report is to assess the costs and financial benefits of the BCDTC. To do this NPC Research utilized its Transaction Cost Analysis Approach ("TCA Approach") to compare the estimated cost of the BCDTC program with criminal justice system and other costs avoided as the result of the operation of the program.<sup>4</sup>

The researchers have compared the cost of BCDTC with costs that have been avoided as the result of BCDTC and other financial benefits that have accrued to former BCDTC participants. To assess the financial benefits of the BCDTC, NPC Research followed a process of cost analysis that involved seven basic points:

---

<sup>4</sup> NPC Research's TCA Approach to cost analysis is described in Appendix A.

1. **Identify the “investment costs” of the BCDTC program.** These are the costs that are required to operate the BCDTC. They involve a number of agencies of the State of Maryland and Baltimore City government
2. **Identify “business as usual” criminal justice system costs that may be avoided as a result of the BCDTC program.** “Business as usual” criminal justice system costs, as compared to the cost of BCDTC, represent the costs associated with the ordinary process of criminal cases – arrests, booking episodes, incarceration episodes, court hearings and so forth. “Business as usual” criminal justice system costs are any costs incurred by the Maryland/Baltimore City criminal justice system outside of the BCDTC program. **For purposes of this study “business as usual” criminal justice system costs represent all criminal justice system costs of the comparison sample and the criminal justice system costs of the BCDTC sample members after their tenure in the BCDTC program.**
3. **Compare the “business as usual” criminal justice system cost experiences of the BCDTC and the comparison sample.** The difference in the “business as usual” criminal justice system cost experiences of the two samples can be seen as the financial benefit to the Baltimore City/Maryland criminal justice system resulting from BCDTC.
4. **Compare the “business as usual” criminal justice system cost differences between the samples with the “investment costs” of the BCDTC program.** This comparison will allow the policy maker and/or policy analyst to see the return on the investment in BCDTC resulting from savings in the criminal justice system outside of the BCDTC program.
5. **Compare the estimated victimization costs of the BCDTC sample and the comparison sample.**
6. **Estimate changes in State and local income taxes and other local public service system cost savings for BCDTC participants.**



## **7. Summarize and analyze the cost findings.**

The reader may gain a better understanding of the NPC Research approach to drug court cost analysis by referring to Appendixes A., B., C. and D.

In the following pages of this section NPC Research will present its cost analysis findings.

### **“Investment” Cost of BCDTC**

#### Cost Analysis Methodology

Through personal, electronic and telephone interviews with key agency representatives, analyses of jurisdictional budgets and other administrative documents, and direct observation of agency activities, NPC Research constructed a picture of the key components of the BCDTC program. The researchers also identified the financial and other agency organizational resources required for the BCDTC operation. Using these methods the researchers also specified the increments of such resources dedicated to each individual participant in the BCDTC. The costs that the researchers identified for each agency include the direct (costs directly involved in the activity under consideration) and indirect (administrative support, information technology, supervision, etc.) costs associated with each relevant service.

The agencies that provide the resources necessary for the operation of BCDTC and the roles played by each agency are as follows:

- District Court of Maryland, Baltimore City – The District Court, under the direction of a District Court Judge, conducts BCDTC sessions, provides administrative case support for BCDTC participants, and is responsible for other court session-related resources, such as courthouse and courtroom security.
- Circuit Court of Maryland, Baltimore – Similar to the District Court, under the direction of a Circuit Court Judge, the Circuit Court conducts BCDTC sessions, provides administrative case support for BCDTC participants, and is responsible for other court session-related resources, such as courthouse and courtroom security.
- Baltimore City State's Attorney's Office ("BC-SAO") – The BC-SAO is responsible for screening potential BCDTC participants, having an Assistant State's Attorney attend BCDTC sessions, coordinating with the other agencies represented on the BCDTC team and maintaining case files on BCDTC participants.
- Maryland Office of the Public Defender ("OPD") – The OPD works with the BC-SAO to screen potential BCDTC participants. It also represents many of the participants in BCDTC. The OPD provides an Assistant Public Defender who attends BCDTC sessions and coordinates with other BCDTC team agency representatives. The OPD also maintains case files for their BCDTC clients.
- Baltimore City Health Department ("BC-HD") – Through contractual arrangements with Baltimore Substance Abuse Systems, Inc ("BSAS"), BC-HD provides substance abuse treatment for BCDTC participants. The forms of treatment provided include (descriptions provided by BSAS): inpatient detox, intermediate care, halfway house, therapeutic community, outpatient detox, intensive outpatient, standard outpatient, methadone detox and methadone maintenance.

- State of Maryland, Department of Public Safety and Correctional Services (“DPSCS,”), Division of Pre-trial Detention Services and Division of Corrections – These Divisions of DPSCS are responsible for housing BCDTC participants who have been sentenced to jail time as a sanction for non-compliance with BCDTC program requirements and for transportation of detainees to and from BCDTC sessions.
- State of Maryland, DPSCS, Division of Parole and Probation (“Parole and Probation”) – Parole and Probation provides active supervision of BCDTC participants, including regular meetings with participants, administration of urinalysis, home visits and confirmation of treatment progress and employment status.

No individual budget, single accounting system or other financial management structure exists for BCDTC. Rather, the resources that support BCDTC are allocated in the separate individual budgets of the agencies listed above. Typically no agency specifically identifies resources in its operating budget for drug courts. As a result, utilizing its TCA Approach, NPC Research constructed a “synthetic budget” for the BCDTC operation and identified unit cost factors for individual episodes of services provided by the agencies that support the BCDTC program.<sup>5</sup> NPC Research combined the unit costs with the BCDTC experience of each member of the study sample (number of drug court sessions attended, days of jail sanction, treatment received, etc.) to determine the BCDTC “investment” cost of each sample member.

---

<sup>5</sup> Details regarding NPC Research's estimation of the BCDTC cost environment or “synthetic budget” and unit cost factors are included in Appendix B.

It should be noted that, in developing its cost estimates associated with the BCDTC, NPC Research has not considered whether temporary intergovernmental grants are involved. Rather, the researchers have sought to reflect the “true” total cost of BCDTC operation – a position that it believes is of greater value to policy-makers who, faced with the unpredictable nature of federal grant funds for drug courts, are concerned with assessing the impact of absorbing the total cost of drug courts on the state and local level. However, the researchers have included in their analysis all publicly supported services provided by BCDTC – regardless of whether they involve intergovernmental grants.

It should also be noted that the researchers did not include in their cost analysis a variety of services provided to BCDTC participants that are not funded by taxpayers. These services include privately funded job training, mentoring, faith community support, 12 step programs and other services.

#### Cost Analysis Findings – The Cost of BCDTC

As can be seen in Table 4. on the next page, NPC Research identified an average cost of \$10,480 per member of the BCDTC sample for participation in the BCDTC program (for the average 18.9 month length of participation in the program). The researchers found a 39% difference in the cost of BCDTC participants from District Court and Circuit Court. The average total BCDTC cost for participants from District Court was \$12,572 as compared to \$9,048 for those from Circuit Court. Since NPC Research did not perform a process analysis of the BCDTC/District Court as compared to BCDTC/Circuit Court, it cannot account for this cost difference. It can be reasonably assumed, however, that since the average monthly population during the period of analysis of BCDTC/Circuit Court (426 participants) was considerably higher than that of BCDTC/District Court (332), economies of scale may have been involved.

**Table 4. Average BCDTC program cost per participant.**

The average agency costs per BCDTC sample member, represented as average cost for all participants and for participants from District and Circuit Courts. The amounts shown are the total average cost for the average 18.87 month BCDTC tenure of participants. Costs are represented as 2003 values.

Agency	Average BCDTC Cost (Includes District & Circuit Court) (n=60)	Average District Court/ BCDTC Cost (n=25)	Average Circuit Court/ BCDTC Cost (n=35)
Court	2,067	3,021	1,414
State's Attorney's Office	691	850	582
Office of Public Defender	1,038	1,666	609
Health Department (BSAS)	2,215	2,606	1,947
Parole and Probation	3,513	3,147	3,764
Pre-trial Detention/ Corrections	956	1,282	733
Total	\$10,480	\$12,572	\$9,048

Using the average costs per participant sited above, the total cost for the average BCDTC program population of 758 during the study period (the average monthly enrollment of the BCDTC program during the BCDTC sample's 18.9 month tenure in the program) can be estimated. Table 5. represents the total program cost by agency involved in BCDTC. As can be seen in the table, NPC Research estimates a total BCDTC cost of \$7,943,753 to cover an average of 18.9 months of BCDTC operation for 758 program participants. The cost for District Court participants was \$3,872,296 and \$4,071,457 for Circuit Court participants.

**Table 5. Total BCDTC program cost for BCDTC population.**

The total agency costs for a BCDTC population of 758, represented as cost for all participants and for participants from District and Circuit Courts. The amounts shown are the total cost for the average 18.87 month BCDTC tenure of participants. Costs are represented as 2003 values.

Agency	Total BCDTC Cost (Includes District & Circuit Court)	Total District Court/ BCDTC Cost	Total Circuit Court/ BCDTC Cost
Court	1,566,657	930,323	636,334
State's Attorney's Office	523,466	261,733	261,733
Office of Public Defender	787,010	513,178	273,832
Health Department (BSAS)	1,678,727	802,704	876,023
Parole and Probation	2,663,219	969,412	1,693,807
Pre-trial Detention/ Corrections	724,674	394,946	329,728
Total	\$7,943,753	\$3,872,296	\$4,071,457

Jurisdictional and agency policy makers and managers are interested in the annual budget impact of the BCDTC on their budgets. To this end, the researchers translated the total program costs indicated in the preceding table into annualized costs. Table 6. represents the annualized costs for the program. It shows the estimated annual cost commitments of each agency in support of BCDTC. The total annual cost of BCDTC is shown as \$5,051,433. The cost for District Court/BCDTC participants is \$2,462,393, while that for Circuit Court/BCDTC participants is \$2,589,040.

**Table 6. Annualized BCDTC program cost.**

The total annualized agency costs for a BCDTC population of 758, represented as cost for all participants and for participants from District and Circuit Courts. Costs are represented as 2003 values.

Agency	Total BCDTC Cost (Includes District & Circuit Court)	Total District Court/ BCDTC Cost	Total Circuit Court/ BCDTC Cost
Court	996,237	591,592	404,645
State's Attorney's Office	332,872	166,436	166,436
Office of Public Defender	500,460	326,330	174,130
Health Department (BSAS)	1,067,502	510,439	557,063
Parole and Probation	1,693,541	616,449	1,077,092
Pre-trial Detention/ Corrections	460,820	251,146	209,674
Total	\$5,051,433	\$2,462,393	\$2,589,040

### **“Business As Usual” Criminal Justice System Costs**

#### Cost Analysis Methodology

As was indicated at the beginning of the cost analysis section, **NPC Research defines “business as usual” criminal justice system costs as any costs incurred by the Maryland/Baltimore City criminal justice system outside of the BCDTC program. For purposes of this study “business as usual” criminal justice system costs represent all criminal justice system costs of the comparison sample and the criminal justice system costs of the BCDTC sample members after their tenure in the BCDTC program.**

To assess the local public financial benefits of the BCDTC, NPC Research first compared the “business as usual” criminal justice system cost experiences of the BCDTC sample and the comparison sample. Again, “business as usual” criminal justice system costs, as compared to the costs of BCDTC, represent the costs associated with the ordinary process of criminal cases outside of the BCDTC program– arrests, booking episodes, incarceration episodes, court hearings and so forth.

As it did in determining the costs of the BCDTC program, through personal, electronic and telephone interviews with key agency representatives, analyses of jurisdictional budgets and other administrative documents, and direct observation of agency activities, NPC Research constructed a picture of the key components of the “business as usual” disposition of cases in the criminal justice system and the financial and other agency organizational resources required for such.<sup>6</sup> NPC Research also specified the increments of such resources dedicated to each individual “business as usual” case. The costs that the researchers identified for each agency include the direct (costs directly involved in the activity under consideration) and indirect (administrative support, information technology, supervision, etc.) costs associated with each relevant service.

The agencies that NPC Research analyzed as providing the resources necessary for the “business as usual” processing of cases through the Baltimore City/Maryland criminal justice system and the roles played by each agency are as follows:

- District Court of Maryland, Baltimore City – From the introduction of cases to the adjudicative process in District Court Commissioner hearings to the ultimate disposition of cases in trials, the District Court, as an organizational subdivision of the Maryland Judiciary, budgets and manages judicial, administrative, security and other resources associated with the adjudication of misdemeanor and certain felony cases.<sup>7</sup>
- Circuit Court of Maryland, Baltimore City - The Circuit Court for Baltimore City is a State trial court of unlimited jurisdiction. It handles all types of

---

<sup>6</sup> Details regarding NPC Research's estimation of cost environment for the “business as usual” processing of criminal cases can be found in Appendix B.

<sup>7</sup> For a description of the function of Maryland District Courts see [www.courts.state.md.us/district-on-line](http://www.courts.state.md.us/district-on-line).



cases and is divided into four main divisions: Family, Juvenile, Criminal, and Civil.<sup>8</sup> For purposes of this analysis the researchers focused on the criminal case responsibilities of the Circuit Court.

- Baltimore City State's Attorney's Office ("BC-SAO") – The BC-SAO deals with a wide variety of District Court, Juvenile Court and other cases. For purposes of this analysis, focus is directed to its role in the adjudication of “business as usual” District Court and Circuit Court criminal cases. The cost environment considered by NPC Research in this analysis includes the prosecutorial activities of Assistant State's Attorneys and all administrative costs associated with the adjudication of cases by BC-SAO.
- Maryland Office of the Public Defender ("OPD") – The OPD provides legal representation to indigent defendants.<sup>9</sup> The cost environment of the OPD considered by NPC Research in this analysis includes the case representation activities of Assistant Public Defenders and all administrative costs associated with the adjudication of cases.
- Law Enforcement Agency – The researchers were unable to collect data from the Baltimore City Police Department regarding activities associated with recidivist arrest episodes. As a result, Anne Arundel County, Maryland Police Department ("AA-PD") was used as a proxy. The AA-PD provides law enforcement services in unincorporated Anne Arundel County. As the largest local law enforcement agency in the County, this agency was used as the model for the calculation of the cost consequences of investigation, arrest and transportation to booking of individuals charged with the commission of criminal offenses. Although the operational environments of Baltimore City and Anne Arundel County differ greatly, the researchers believe that operational similarities resulting from State

---

<sup>8</sup> For detail regarding the operation of the Baltimore City Circuit Court, see its website at [www.baltocts.state.md.us](http://www.baltocts.state.md.us).

<sup>9</sup> See the Maryland Office of Public Defender's website on-line at [www.opd.state.md.us/AboutOPD](http://www.opd.state.md.us/AboutOPD).

regulation, professional standards and labor standards should outweigh the differences between the departments.

- Baltimore City Health Department (“BC-HD”) – Through contractual arrangements with Baltimore Substance Abuse Systems, Inc., BC-HD provides substance abuse treatment for BCDTC participants. Since members of the samples in this study typically receive substance abuse treatment in connection with encounters with the criminal justice system, the researchers have included this cost element in the “business as usual” criminal justice cost environment. The forms of substance abuse treatment provided include (descriptions provided by BSAS): inpatient detox, intermediate care, halfway house, therapeutic community, outpatient detox, intensive outpatient, standard outpatient, methadone detox and methadone maintenance.
- DPSCS, Division of Pre-trial Detention Services and Division of Corrections – These divisions of DPSCS are responsible for booking, providing pre-trial detention, transportation to court, and sentenced detention for individuals charged with the commission of criminal offenses.
- DPSCS, Division of Parole and Probation (“Parole and Probation”) – Parole and Probation supervises the conduct of parolees and adult probationers.

As was indicated above in regard to BCDTC cases, no individual budget, single accounting system or other financial management structure exists to reflect the total financial and other resource commitments associated with “business as usual” transactions that take place in the Maryland/Baltimore City criminal justice system. Again, as was the case with the operation of the BCDTC program, the resources involved in “business as usual” criminal justice system transactions are allocated in the separate individual budgets of the agencies listed above. As a result, utilizing its TCA Approach, NPC Research went to the separate agency sources of activity and cost information to construct unit cost

factors for individual episodes of services provided by the agencies that support the processing of criminal cases.<sup>10</sup> NPC Research combined the unit costs with the recidivist re-arrest, adjudication, incarceration, supervision and treatment experience of each member of the BCDTC and comparison samples. The result of this analysis is an estimated “business as usual” cost for each member of the samples.

### Cost Analysis Findings – “Business As Usual” Costs

Through the examination of criminal history databases, jail records and other sources of data, NPC Research identified the experience of the BCDTC and comparison samples regarding their recidivist (recidivism defined as re-arrest episodes) contacts with the criminal justice system. The researchers combined this information regarding recidivist episodes with cost information that they obtained from each of the agencies identified above.

Table 7. represents the average total “business as usual” criminal justice system cost per member of the BCDTC sample (the criminal justice system costs of the BCDTC sample members after their tenure in the BCDTC program) for each agency of the system 36 months after BCDTC entry. This experience is compared in the table to the “business as usual” cost experience of individuals in the comparison sample (all criminal justice system costs of the comparison sample during the study period). As the Table demonstrates, NPC Research has estimated that on average members of the BCDTC sample incurred a total of \$10,641 in “business as usual” costs as compared to \$14,034 for members of the comparison sample. This represents a difference of \$3,393 per sample member or 24.2% less in “business as usual” criminal justice system costs for the BCDTC sample as compared to the comparison sample.

---

<sup>10</sup> Details regarding the calculation of the “business as usual” agency costs are included in Appendix B.

**Table 7. "Business As Usual" cost of BCDTC and comparison samples.**

These are the 36 month average agency costs per BCDTC and comparison sample member for "business as usual" criminal justice system experience. Costs are represented as 2003 values.

Agency	BCDTC Sample	Comparison Sample
Court	1,551	2,255
State's Attorney's Office	136	198
Office of Public Defender	399	582
Police Department	575	839
Health Department (BSAS)	501	1,716
Divisions of Pre-trial Detention & Corrections	7,099	7,346
Division of Parole and Probation	380	1,098
Total	\$10,641	\$14,034

Somewhat different "business as usual" cost experience were identified by the researchers for BCDTC members from District and Circuit Courts. Tables 8. on the next page summarizes the "business as usual" cost experience of members of BCDTC from District Court compared to comparison members from District Court. As the Table indicates, the "business as usual" criminal justice system cost of the BCDTC/District Court group was \$9,243 - \$1,366 or 12.9% less than the comparison sample.

**Table 8. "Business As Usual" cost of BCDTC and comparison samples, District Court.**

These are the 36 month average agency costs per BCDTC/District Court and comparison/District Court sample member for "business as usual" criminal justice system experience. Costs are represented as 2003 values.

Agency	BCDTC Sample (n=25)	Comparison Sample (n=28)
Court	2,037	2,425
State's Attorney's Office	190	226
Office of Public Defender	559	665
Police Department	806	959
Health Department (BSAS)	523	1,716
Divisions of Pre-trial Detention & Corrections	4,748	3,520
Division of Parole and Probation	380	1,098
Total	\$9,243	\$10,609

Tables 9. summarizes the "business as usual" cost experience of members of BCDTC from Circuit Court compared to comparison sample members from Circuit Court. As the Table indicates, the "business as usual" criminal justice system cost of the BCDTC/Circuit Court group was \$12,152 - \$5,429 or 30.9% less than the comparison sample.

**Table 9. "Business As Usual" cost of BCDTC and comparison samples, Circuit Court.**

These are the 36 month average agency costs per BCDTC/District Court and comparison/District Court sample member for "business as usual" criminal justice system experience. Costs are represented as 2003 values.

Agency	BCDTC Sample (n=25)	Comparison Sample (n=28)
Court	1,161	2,078
State's Attorney's Office	97	174
Office of Public Defender	286	512
Police Department	412	738
Health Department (BSAS)	748	2,556
Divisions of Pre-trial Detention & Corrections	8,907	10,125
Division of Parole and Probation	541	1,398
Total	\$12,152	\$17,581

## **Cost Analysis Discussion**

### Criminal Justice System Costs

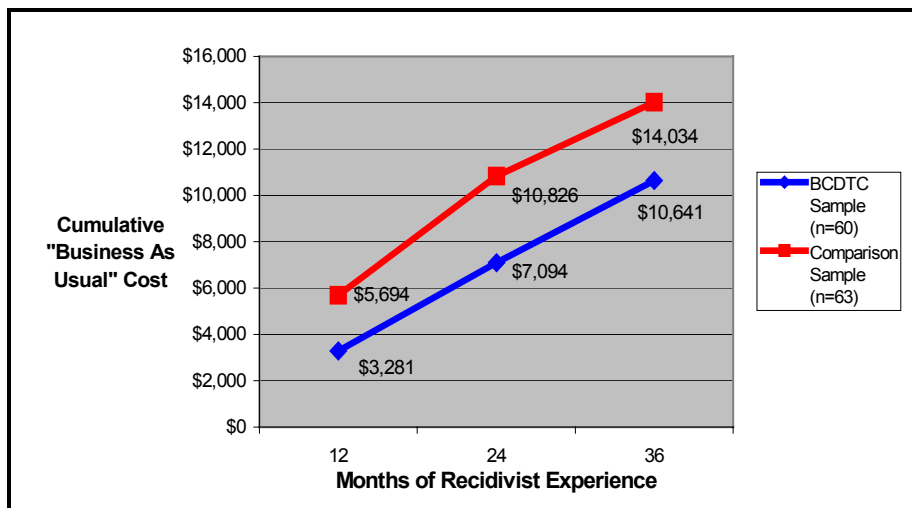
As was indicated above, NPC Research found a substantial difference in the average three-year “business as usual” criminal justice system cost experience (**“business as usual” criminal justice system costs represent all criminal justice system costs of the comparison sample and the criminal justice system costs of the BCDTC sample members after their tenure in the BCDTC program**) of individuals in the BCDTC sample as compared to the comparison sample. The researchers found an average of \$10,641 per member of the BCDTC sample versus \$14,034 per member of the comparison sample. This average difference of \$3,393 per sample member results from the difference in the re-arrest rate for the samples reported above – an average of 1.20 re-arrests per sample member over the 36 month study period for the BCDTC sample as compared to 1.75 per sample member for the comparison sample.

If this three-year average “business as usual” criminal justice system cost difference between the BCDTC and comparison samples is projected onto the total average BCDTC enrollment of 758 during the study period we see that drug court participants cost \$2,571,894 less than comparable non-drug court participants. If this criminal justice system cost saving is compared to the total BCDTC program cost of \$7,943,753 (see Table 5, page 39) for this group, a “return” on the BCDTC “investment” of 32.4% is seen. If it is assumed that the difference in recidivist experience between the samples extends beyond the study period, the BCDTC investment would be recouped through criminal justice system cost savings in approximately four years after the entry date of the BCDTC sample members.

Another way to assess the impact of the BCDTC program is to track the cumulative annual “business as usual” cost impact of members of the BCDTC sample as compared to the comparison sample at 12 months, 24 months and 36 months after BCDTC qualifying arrest. Chart 9. on the next page describes the three-year experience of the samples. As can be seen in this chart, at 36 months there is a \$3,393 difference between the average \$14,034 “business as usual” cost experience per member of the comparison sample and the \$10,641 average “business as usual” cost experience of members of the BCDTC sample. This represents a 24.2% difference in the “business as usual” cost of the samples.

**Chart 9. Cumulative “business as usual” cost of BCDTC and comparison samples.**

Average 36 month cumulative “business as usual” criminal justice system costs for BCDTC sample members compared to comparison sample members. Costs are represented as 2003 values.

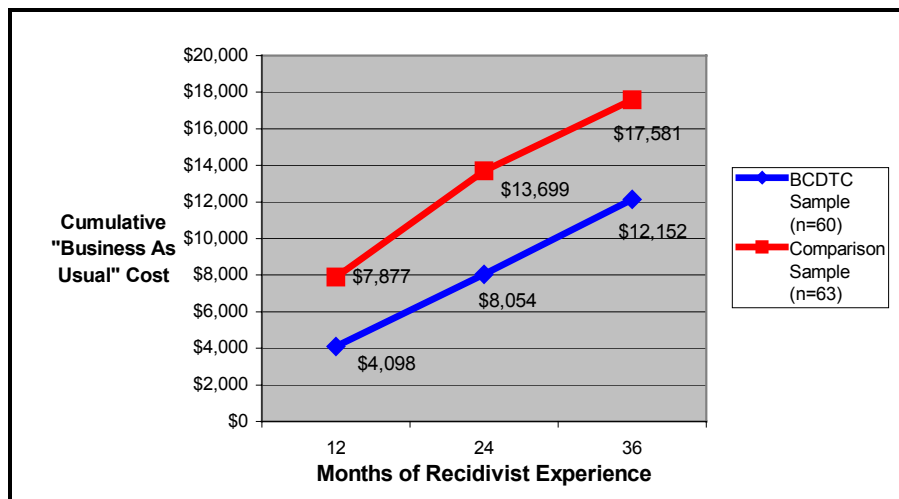


The substantial difference in the “business as usual” costs between members of the BCDTC sample and members of the comparison sample is largely the result of the experience of the BCDTC sample members from Circuit Court. The “business as usual” cost of the members of the BCDTC sample was \$12,152 as compared to \$17,581 for the Circuit Court/comparison group. This is \$5,429 or 30.9% less than members of the comparison sample from Circuit Court. Chart 10.

on the next page graphically demonstrates the cumulative difference in the “business as usual” cost between the BCDTC/Circuit Court group and members of the comparison sample from Circuit Court.

Another way to consider the “business as usual” criminal justice system cost experience of the members of the BCDTC sample from Circuit Court is to compare it with the amount “invested” in them in the BCDTC program. In Table 4 the BCDTC cost of the BCDTC sample members from Circuit Court was identified as \$9,048. This is \$3,104 or 25.5% less than this group's \$12,152 “business as usual” cost experience. This \$3,104 difference in the cost of the BCDTC/Circuit Court group as compared to the comparison group members from Circuit can also be viewed as a 34.3% “return” on the \$9,048 BCDTC “investment” in the BCDTC/Circuit Court group.

**Chart 10. Cumulative “business as usual” cost of BCDTC/Circuit Court and comparison/Circuit Court groups.** Average 36 month cumulative “business as usual” criminal justice system costs for BCDTC sample members from Circuit Court compared to comparison sample members from Circuit Court. Costs are represented as 2003 values.





### Immediate Return on the BCDTC “Investment”

It may be of particular interest to Baltimore City and Maryland policy makers that NPC Research's analysis indicates there are immediate savings in the criminal justice system that can be identified with the BCDTC program. 12 months after entry into the program members of the BCDTC sample were found to have been re-arrested .35 fewer times than members of the comparison sample (.36 versus .71). This reduction in recidivist experience resulted in savings of over \$3,000 in “business as usual” costs associated with the BCDTC sample. This pattern of cost savings was found to hold throughout the three-year study period.

### **Victimization Costs**

The financial benefits of the BCDTC can also be considered in terms of savings in victimization costs resulting from avoided crime. Although victimization costs are not generally directly borne by the public, they often lead to governmental responses, such as the application of increased law enforcement resources, changes in sentencing policies or construction of additional jail space. Regardless of governmental responses, however, victim costs absorbed by citizens are costs to the entire political community. The recent literature concerning costs and benefits of criminal justice systems considers victimization cost to be an appropriate element of cost-benefit analysis routines.<sup>11</sup> As a result, NPC Research believes that it reasonable to include victimization costs in this analysis.

---

<sup>11</sup> Cohen, M.A. (2001). “The Crime Victim's Perspective in Cost-Benefit Analysis: The Importance of Monetizing Tangible and Intangible Crime Costs.” In B.C. Welsh, D.P. Farrington and L.W. Sherman (Eds.), *Costs and Benefits of Preventing Crime*. Boulder, CO: Westview Press. Pp. 23 – 50.

In 1996 the National Institute of Justice published a monograph entitled *Victim Costs and Consequences: A New Look*.<sup>12</sup> This report is one of the most comprehensive and useful tools available regarding victimization costs. The report includes a summary of the estimated victim cost per incident for a list of crime types. The costs to victims that the authors considered include: “(1) out-of-pocket expenses such as medical bills and property losses, (2) reduced productivity at work, home, and school, and (3) non-monetary losses—such as fear, pain, suffering, and lost quality of life.”<sup>13</sup> From the list of crimes considered in the NIJ report, NPC Research constructed a model that it believes captures the nature and magnitude of the majority of crimes found in its analysis of recidivist episodes among the sample members considered in this report. This model includes: child abuse, assault, robbery, drunk driving, larceny, burglary and motor vehicle theft. NPC Research took the 1996 dollar values found in the NIJ report and adjusted them according to changes in the Baltimore Consumer Price Index to represent 2003 dollar values. NPC Research found an average modeled victimization cost of \$17,851.<sup>14</sup>

Using this average victimization cost, a comparison can be made between the three-year victimization cost consequences of the BCDTC sample and the comparison sample. After three years NPC Research found an average difference of .55 fewer cumulative re-arrests among the BCDTC sample members as compared to the comparison sample. Using the modeled victimization cost per incident and re-arrests as the indicators for “incidents,” this means that BCDTC sample members cost an estimated average of \$9,818 less in cumulative three-year victimization costs as compared to the comparison sample. This estimated three-year savings in victimization costs can be viewed

---

<sup>12</sup> Miller, T.R., Cohen, M.A. and Wiersma, B. (1996) *Victim Costs and Consequences: A New Look*. Washington, DC: U.S. Department of Justice, National Institute of Justice.

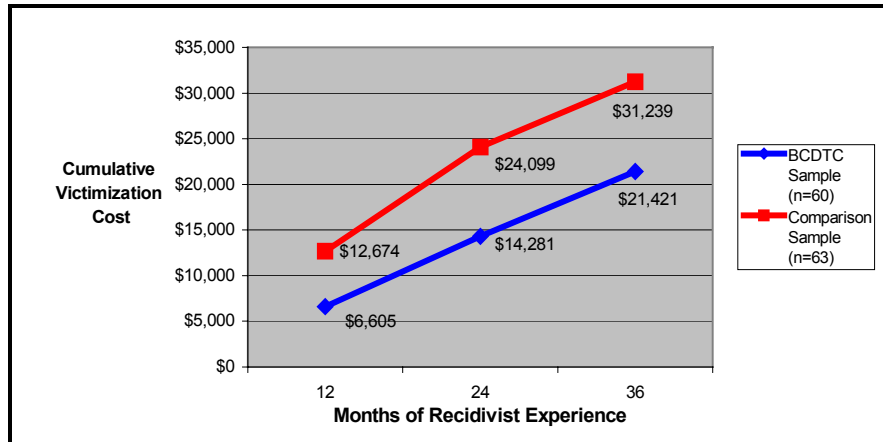
<sup>13</sup> Miller, Cohen and Wiersma, (1996). P. 9.

<sup>14</sup> NPC Research’s victimization model can be found in Appendix E.

as a 92.4% “return” on the amount invested on individuals in the BCDTC program. Chart 11. represents the cumulative three-year difference in average victimization costs of the members of the BCDTC sample as compared to members of the comparison sample

**Chart 11. Cumulative victimization cost of BCDTC and comparison samples.**

Average 36 month cumulative victimization costs for BCDTC sample members compared to comparison sample members. Costs are represented as 2003 values.



If the estimated average three-year victimization cost savings of \$9,818 for the BCDTC sample members is projected onto the total 758 average number of program participants during the study period, a total savings in victimization costs of \$7,442,044 is seen..

Again, the experience of the members of the BCDTC sample from Circuit Court had a major impact on the victimization cost findings for the BCDTC sample as a whole. NPC Research found a .68 cumulative difference in the three-year re-arrest records between the BCDTC/Circuit Court and comparison/Circuit Court groups. Using the modeled victimization cost per incident and re-arrests as the indicators for “incidents,” this means that BCDTC/Circuit Court group members cost an estimated average of \$12,139 less in cumulative three-year victimization costs as compared to the comparison/Circuit Court group.

In assessing NPC Research's analysis concerning victimization costs, the reader should note that criminal activity tends to be under-reported. This means that victimization cost estimates may be very conservative. It should also be noted that so-called "victimless" crimes such as those involving drug charges and prostitution are not included in the victim cost index used in this analysis.

#### Increased Maryland and Local Income Tax Returns

One of the most important objectives of the BCDTC is to assure that participants who have significant substance abuse problems complete treatment. Not only is it assumed in the drug court model that completion of substance abuse treatment will reduce recidivism, it is also assumed that program participants who complete treatment will become more productive citizens. National research indicates that this increased productivity will be reflected in increased earnings among treatment completers. In turn, increases in earnings will result in a public financial benefit in the form of increased income tax payments by individuals who complete treatment.<sup>15</sup>

In M.W. Finigan's 1996 examination of the societal cost-beneficial effects of individuals who complete drug and alcohol treatment, he found substantial improvements in actual income earnings for individuals who complete treatment as compared to individuals who received little or no treatment.<sup>16</sup> These findings can be seen as applicable to graduates of the BCDTC program. In the Finigan study, the researchers found an average of \$6,305 in increased annual income for individuals who complete drug and alcohol treatment as

---

<sup>15</sup> It should be noted that another anticipated related public benefit would be reduced payment of unemployment benefits. However, the researchers did not believe that they possessed adequate evidence either in the form of immediate or previously completed research to support this inference.

<sup>16</sup> Finigan, M.W. (1996). *Societal Outcomes and Cost Savings of Drug and Alcohol Treatment in the State of Oregon*. Portland, OR: NPC Research.

compared a similar group who did not receive treatment.<sup>17</sup> According to the website of the Comptroller of Maryland,<sup>18</sup> this increase in earnings should result in an average increase of \$578 per individual per year in Maryland and local income taxes paid by individuals who complete the BCDTC program. If this average increase in income tax payments is applied to the 217 graduates of BCDTC who entered the program during the study period, a cumulative estimated increase in income tax returns of \$125,426 is seen through the year 2002.<sup>19</sup>

### Impacts on Other Local Public Systems

Based on national research concerning drug courts, it is reasonable to expect that the BCDTC results in cost savings to the public in areas other than those committed to criminal justice activities.<sup>20</sup> NPC Research did not collect primary evidence in Baltimore regarding the experience of BCDTC participants regarding receipt of public assistance, payment of child support, birth of drug-free babies, and reduced foster care costs. However, strong inferential evidence exists that indicates desirable impacts on these dimensions of local public service will be found among BCDTC participants.

---

<sup>17</sup> The amount indicated is for individuals who complete outpatient treatment – the most frequently utilized form of treatment of the BCDTC sample. The amount has been adjusted to 2003 dollars based on changes in the Washington-Baltimore CPI.

<sup>18</sup> See [www.interactive.marylandtaxes.com](http://www.interactive.marylandtaxes.com).

<sup>19</sup> See Appendix E. or summary of the calculations involved in estimating increases in income taxes paid by BCDTC graduates.

<sup>20</sup> Roman, J., Woodard, J., Harrell, A. and Riggs, S. (1998). *A Methodology For Measuring Costs and Benefits of Court-Based Drug Intervention Programs Using Findings From Experimental and Quasi-Experimental Evaluations*. Washington, DC: The Urban Institute.

Research concerning the Buffalo, NY Drug Court offers findings that allow for the estimation of cost effects resulting from BCDTC impacts on local social service systems in Baltimore.<sup>21</sup> Researchers with the Erie County Department of Social Services identified all Buffalo Drug Court graduates who were County welfare clients. They found that approximately one-third (32.7%) of the graduates had been welfare clients at entry into the Drug Court program. Among the welfare clients who graduated from the Buffalo Drug Court program the researchers found an average annual savings of \$10,133 (2003 dollars) associated with reduced public cash payments, food stamps, Medicaid payments, foster care support, cost of drug/alcohol-free babies and child support received.

Although the Buffalo results limit the development of estimates of social service system cost effects associated with BCDTC to those of graduates, NPC Research believes that it is reasonable to incorporate this cost analysis into an overall assessment of the cost consequences of BCDTC. Since efficacious effects of the BCDTC on non-graduate program participants can be anticipated, an analysis limited to program graduates can be viewed as a conservative estimate of positive BCDTC affects on non-criminal justice system publicly supported services. Additionally, the much higher rate of poverty in Baltimore as compared to Buffalo (22.9% versus 12.2% in 1999<sup>22</sup>) and more intense drug usage among those who enter BCDTC (96% cocaine/heroin as drug of choice in Baltimore<sup>23</sup> as compared to 53% with cocaine/crack/heroin as drug of choice in Buffalo<sup>24</sup>), lead to a reasonable expectation of a more positive “upside” in Baltimore. As a

---

<sup>21</sup> Collaborative Effort Between the Erie County Department of Social Services and the Buffalo Drug Court (2003). *Cost Savings/Cost Avoidance on Public Assistance Graduates of the Buffalo Drug Court*.

<sup>22</sup> Economic Research Service, U.S. Department of Agriculture website, [www.ers.usda.gov/data/povertyrates/](http://www.ers.usda.gov/data/povertyrates/).

<sup>23</sup> Gottfredson, et al. (2002).

<sup>24</sup> Collaborative Effort Between the Erie County Department of Social Services and the Buffalo Drug Court (2003)

result, estimates for Baltimore based on the experience in Buffalo should be conservative.

Using the experience in Buffalo as an indicator, NPC Research estimated that 71 BCDTC participants who entered the program during the period of entry of the BCDTC sample would be BCDTC graduates who had been welfare clients. Table 10. includes NPC

**Table 10. Local social service system financial benefits.**

Estimation of local non-criminal justice system financial benefits associated with BTDC graduates who were on welfare at entry into BCDTC. The analysis is based on the experience of the Buffalo, NY Drug Court. Amounts shown are 2003 values.

Dimension of Public Cost	Financial Benefit
Cash payments, food stamps, Medicaid Payments	\$451,134
Foster care savings	134,687
Cost of alcohol/drug-free babies	41,748
Child support payments	50,126
Total	\$677,695

Research's estimation of the average financial benefits that would accrue to this group of individuals based on the experience in Buffalo. As the Table demonstrates, the researchers estimate that \$677,695 in positive social service system cost effects can be traced to this group.

### **Summary Of Estimated Costs and Benefits of BCDTC**

NPC Research believes that its findings offer a positive picture of the cost-beneficial effects of the BCDTC program. Table 11. on the next page summarizes the financial costs and benefits that the researchers identified for BCDTC participants who entered the program in 2000. As Table 11.

demonstrates, NPC Research found \$10,817,059 (line 5.) in total or gross financial benefits that can be linked to BCDTC during the period that the BCDTC sample entered the drug court program. This is an average of \$14,271 (line 6.) in financial benefits per BCDTC participant. This level of total benefits per participant is 1.36 times the BCDTC program cost per participant of \$10,480 (line 8.).

The cost-benefit analysis should also include a consideration of the net financial benefits of the BCDTC. The net benefits are calculated by subtracting the BCDTC program cost of \$7,943,753 for all BCDTC participants during the study period (Table 9., line 7.) from the gross benefits of the program (line 5.), resulting in \$2,873,306 (line 10.). This average of \$3,791 (line 11.) in net benefits per BCDTC participant represents a 36.2% “return” on the average of \$10,480 (line 8.) “invested” in each member of the BCDTC sample.

The reader can also view the cost-benefit analysis in terms of the “rate of return” on the BCDTC program “investment.” The researchers found a \$3,791 per participant (Table 9., line 11.) or 35.2% “return” (line 12.) on the \$10,480 (line 8.) BCDTC program “investment” per participant. Assuming that the difference in the recidivism rate between the samples (an average difference of .55 in the re-arrest rate between the samples) continues into the future, the total amount “invested” in the BCDTC program would be recouped in approximately four (4) years after the entry of participants from the program.



**Table 11. Cost-benefit Summary.**

Summary of the cumulative three-year financial benefits of the BCDTC as compared to the costs of BCDTC.

1. Criminal Justice System Costs Savings	\$2,571,894
2. Victimization Cost Savings	7,442,044
3. Increased State, Local Income Tax	125,426
4. Other State and Local Public Systems Savings	677,695
5. <i>Gross Benefit</i>	\$10,817,059
6. <i>Gross Benefit Per BCDTC Participant</i>	\$14,271
7. Amount "Invested" in BCDTC During BCDTC Sample Tenure	\$7,943,753
8. Amount "Invested" Per BCDTC Participant	\$10,480
9. <i>Gross Financial Benefit "Return" on BCDTC "Investment"</i>	136.2%
10. Net Benefit (Gross Benefit minus Amount "Invested")	\$2,873,306
11. Net Benefit Per BCDTC Participant	\$3,791
12. <i>Net Financial Benefit "Return" on BCDTC "Investment"</i>	36.2%

### Immediate Savings

To repeat an important point made above, ***NPC Research's analysis indicates that there are immediate savings in the criminal justice system that can be identified with the BCDTC program.*** 12 months after entry into the program members of the BCDTC sample were found to have been re-arrested .35 fewer times than members of the comparison sample (.36 versus .71). This reduction in recidivist experience resulted in average savings of over \$3,000 in "business as usual" costs associated with members of the BCDTC sample. This pattern of cost savings was found to hold throughout the three-year study period.

## Summary and Conclusions

The Drug Treatment Court Commission of the Administrative Office of the Courts of Maryland asked NPC Research to answer the following questions concerning the Baltimore City Drug Treatment Court: *How is the BCDTC program performing? What are the financial costs and benefits of the BCDTC program?* The evidence presented in the preceding sections regarding the researchers' outcome and cost analysis findings answer these questions.

To answer the questions posed by the Drug Court Commission, NPC Research examined three core issues: How do the criminal justice system records of BCDTC program participants compare to those of individuals with similar criminal justice histories and demographic characteristics? What are the comparative cost consequences of the criminal experiences of BCDTC participants and non-BCDTC participants? How do the financial benefits of the BCDTC program compare to its costs?

To address these research issues, the researchers identified a sample of BCDTC participants from 2000 and collected information regarding their recidivist criminal justice experience for a three-year period. The experience of the BCDTC sample was compared to that of a similar sample of individuals who did not enter BCDTC. To perform the cost-benefit analysis the researchers linked a detailed examination of the costs of BCDTC and the “business as usual” criminal justice system to their BCDTC program and recidivist outcome findings regarding the samples. **NPC Research defines “business as usual” criminal justice system costs as representing all criminal justice system costs of the comparison sample and the criminal justice system costs of the BCDTC sample members after their tenure in the BCDTC program.**

Among the results of NPC Research's examination of the BCDTC program are the following important findings:

1. Recidivism Findings. The researchers found that the BCDTC sample demonstrated substantially lower rates of recidivism (recidivism defined as re-arrests) record as compared to the comparison sample. The following are highlights among the findings concerning the re-arrest records of the samples:

- The three-year re-arrest record shows that members of the BCDTC sample were re-arrested an average of .55 or 31.4% fewer times (1.20 versus 1.75) than members of the comparison sample.
- The members of the BCDTC sample from the Circuit Court demonstrated a lower rate of re-arrests than did the BCDTC sample as a whole. The members of this group experienced an average of .86 re-arrests after three years - .68 or 44.2% less than members of the comparison group from Circuit Court.
- The BCDTC sample exhibited lower rates of re-arrests involving drug, property and crimes against person charges. Given the substance abuse abatement mission of BCDTC, it is notable that BCDTC sample members were re-arrested 35.3% fewer times (.75 versus 1.16) than the comparison sample on drug charges. Members of the BCDTC sample from Circuit Court were re-arrested on drug charges 62.3% fewer times than members of the comparison sample from Circuit Court. Since crimes against person involve larger victimization costs than other crime types, it is also notable that members of the BCDTC sample were re-arrested on crimes against person charges 48.0% fewer times than were members of the comparison sample.

2. Cost Findings. The criminal justice system and victimization cost experience of the samples reflected their recidivist records:

- The researchers found that there were immediate criminal justice cost savings associated with individuals who had participated in the BCDTC program. After 12 months of their entry into the program members of the BCDTC sample had cost an average of over \$3,000 less in “business as usual” criminal justice system costs as compared to members of the comparison sample. This was a pattern that held throughout the study period.
- NPC Research found that over the course of the three-year study period the BCDTC sample incurred an average of \$3,393 or 24.2% less in “business as usual” criminal justice system costs than the comparison sample. Projected on the average of 758 BCDTC participants during the study period, a result of \$2,721,894 in total criminal justice system savings were found.
- Utilizing a victimization cost index produced by the National Institute of Justice, the researchers found that members of the BCDTC sample was responsible for an average of \$9,818 less in victimization costs than members of the comparison sample. Projected on the average of 758 BCDTC participants during the study period, \$7,442,044 in victimization cost savings is seen.

The researchers also produced estimates regarding increased State and local income tax revenue and other local public service costs savings resulting from the BCDTC participants. It was estimated that BCDTC participants from study period were responsible for \$125,426 in increased State and local income tax revenue and \$677,695 in other local public service savings.

3. Cost-benefit Calculation. NPC Research found a total of \$10,817,059 in financial benefits associated with the average of 758 BCDTC program participants during the study period. As compared to the \$7,943,753 BCDTC program cost for this group, this represents a three-year 136.2% “return” on the amount “invested” in the BCDTC program.

When the cost of the BCDTC is subtracted from the gross financial benefit that was identified, the researchers found a net benefit of \$2,873,306 or 36.2% “return” on the \$7,943,753 invested in BCDTC during the study period. If the pattern of recidivism of the samples that the researchers found holds in the future, the researchers estimate that the BCDTC “investment” would be recouped in an average of approximately four (4) years after the entry of participants from the BCDTC program.

## **Bibliography**

(Including Sources For Appendixes)

Belenko, S. (1999). *Research on Drug Courts: A Critical Review, 1999 Update*. New York: National Center on Addiction and Substance Abuse.

Brint, S. and Karabel, J. (1991). "Institutional Origins and Transformations: The Case of American Community Colleges," in W.W. Powell and P.J. DiMaggio (eds.), *The New Institutionalism in Organizational Analysis* (pp. 337 – 360). Chicago: The University of Chicago Press.

Carey, S.M. (2003). Personal communication.

Collaborative Effort Between the Erie County Department of Social Services and the Buffalo Drug Court (2003). *Cost Savings/Cost Avoidance on Public Assistance Graduates of the Buffalo Drug Court*.

Cohen, M.A. (2001) "The Crime Victim's Perspective in Cost-Benefit Analysis: The Importance of Monetizing Tangible and Intangible Crime Costs," in Welsh, B.C., Farrington, D.P. and Sherman, L.W. (Eds.), *Costs and Benefits of Preventing Crime*. Boulder, CO: Westview Press.

Cooper, C.S. (2001). *2000 Drug Court Survey Report: Program Operations, Services and Participant Perspectives*. OJP Drug Court Clearinghouse and Technical Assistance Project A Project of the Drug Courts Program Office, Office of Justice Programs, U.S. Department of Justice.

Finigan, M.W. (1996). *Societal Outcomes and Cost Savings of Drug and Alcohol Treatment in the State of Oregon*. Portland, OR: NPC Research.

Finigan, M.W. (2003). Personal communication.

Gottfredson, D.C., Kearley, B., Najaka, S.S., and Rocha, C. (2002). *Baltimore City Drug Treatment Court: Evaluation of Client Self-Reports at Three-Year Follow-up*. College Park, MD: Department of Criminology and Criminal Justice, University of Maryland, College Park

Gottfredson, D. Najaka, S.S., Kearley, B. (2003). "Effectiveness of Drug Treatment Courts: Evidence from a Randomized Trial," *Criminology and Public Policy*, Vol. 2, No. 2. Pp. 171-197.

Government Finance Officers Association (GFOA) (2002). "Best Practices in Public Budgeting." On-line: [www.gfoa.org/services/nacslb/](http://www.gfoa.org/services/nacslb/). Accessed August 20, 2002.

Martinez, R.J. & Dacin, M.T. (1999). "Efficiency Motives and Normative forces: Combining Transactions Costs and Institutional Logic." *Journal of Management* 25 (1), 75-97.

Miller, T.R., Cohen, M.A. and Wiersma, B. (1996). *Victim Costs and Consequences: A New Look*. Washington, DC: U.S. Department of Justice, National Institute of Justice

Morgan, D. and Robinson, K. (2000). *Handbook on Public Budgeting*. Portland, OR: Hatfield School of Government, College of Urban and Public Affairs, Portland State University.

Perrow, C. (1986). *Complex Organizations: A Critical Essay*. New York: McGraw-Hill, Inc.

Powell, W.W. and DiMaggio, P.J., eds. (1991) *The New Institutionalism in Organizational Analysis*. Chicago: The University of Chicago Press.

Rempel, M., Fox-Kralstein, D., Cissner, A., Cohen, R., Labriola, M., Farole, D. Bader, A. and Magnani, M. (2003). *The New York State Adult Drug Court Evaluation: Policies, Participants and Impacts*. New York: Center for Court Innovation

Roman, J., Townsend, W. and Bhati, A.S. (2003). *Recidivism Rates For Drug Court Graduates: Nationally Based Rates*. Washington, DC: Urban Institute.

Roman, J., Woodard, J., Harrell, A. and Riggs, S. (1998). *A Methodology For Measuring Costs and Benefits of Court-Based Drug Intervention Programs Using Findings From Experimental and Quasi-Experimental Evaluations*. Washington, DC: The Urban Institute.

Scott, W.R. (2001). *Institutions and Organizations (Second edition)*. Thousand Oaks, CA: Sage Publications, Inc.



## **Appendix A. THE NPC RESEARCH COST ANALYSIS APPROACH: THE TRANSACTION COST ANALYSIS APPROACH**

### **Overview**

The public program cost evaluation approach developed by NPC Research – the transaction cost analysis approach (“TCA Approach”) – is designed as a response to two basic questions regarding the evaluation of the cost consequences of inter-agency/inter-jurisdictional programs:

- Can the cost of inter-agency/inter-jurisdictional programs be fully described?
- What is the most useful method of cost evaluation for such programs?

In the following two subsections these questions are more fully discussed. In the subsequent five sections, NPC Research's response to these questions in the form of its cost evaluation approach is elaborated.

### **Can the Costs of Inter-agency Programs Be Fully Described?**

Inter-agency/inter-jurisdictional programs for the production and delivery of public goods and services are typically characterized by complex social, political and economic features. They involve employees drawn from different organizational cultures. They include the integration of a variety of specialized resources. Such resources are supported through separate public budgetary and financial management processes. In light of this organizational complexity, it would seem to be problematic as to whether a coherent evaluation of the cost consequences of such programmatic systems can be produced.

NPC Research believes that the cost consequences of inter-agency/inter-jurisdiction programs can be fully described. However, for this to be done, extensive understanding regarding the ways that agencies program their

organizational resources must be developed. NPC Research's TCA Approach described in the following sections is designed to generate levels of understanding regarding the nature of these inter-organizational linkages that has not heretofore existed in the realm of public program cost evaluation.

**What is the Most Useful Method of Cost Evaluation for Inter-agency/Inter-jurisdictional programs?**

It is NPC Research's position that a fully elaborated public program cost evaluation approach should exhibit the following characteristics:

- It fully captures an understanding of the sources of organizational contributions to the support of inter-agency/inter-jurisdictional programs;
- It completely describes the activities each organizational contributor pursues in support of these programs;
- It identifies all of the direct and indirect costs – what NPC Research refers to as “transactional” and “institutional” costs – resulting from the pursuit of activities by all organizational contributors to inter-agency/inter-jurisdictional programs; and,
- This cost evaluation information is generated in forms that are meaningful to public jurisdiction policy leaders in policy-making routines such as program evaluation and budget preparation.

NPC Research's transaction cost analysis approach to public program cost evaluation discussed in the following sections possesses these characteristics.

## **Theoretical and Practical Grounding of the Transaction Cost Analysis Approach**

### Overview

NPC Research's TCA Approach differs from other cost evaluation methods in large part because of its theoretical and practical roots. Unlike other approaches, the NPC Research cost evaluation model is not taken directly from economic theory. Although it recognizes and incorporates ideas taken from economics, NPC Research's transaction cost analysis approach draws from five major sources of theoretical and practical thought:

- Organization theory
- Institutional theory
- Transaction cost economics
- Public management practice
- NPC Research practical experience

### Organization Theory

It is a common place to assert that modern life in western societies is "organizational life." Almost every aspect of life from home to the workplace involves contact with organizations – as frequently as not, large, complex organizations. In twenty-first century urban America complex organizations, singly and in interlinked clusters, are essential to the delivery of every public good and service – particularly in complex urban settings where most Americans live and work. As such, as determined through decision-making by elected and appointed officials, complex organizations and clusters of organizations are tools of collective social action wherein human, financial and physical resources are transformed into things that people want and need in the pursuit of daily urban life. Organizations concentrate power, values and resources to change and stabilize the way that we live.

In the application of the NPC Research TCA Approach in specific cost evaluation situations, an organizational perspective helps the researcher visualize organizational structural elements that are impacted by inter-organizational programs. This organizational structural assessment assists the researcher in understanding resource and outcome effects resulting from organizational commitments to extra-organizational programming.

### Institutional Theory

In considering the influence of institutional theory on NPC Research's approach to public program cost evaluation, W. Richard Scott's recent book, *Institutions and Organizations* is useful.<sup>25</sup> The following extended quote from Scott introduces the subject of this area of discourse:

- Institutions are social structures that have attained a high degree of resilience.
- Institutions are composed of culture-cognitive, normative, and regulative elements that, together with associated activities and resources, provide stability and meaning to social life.
- Institutions are transmitted by various types of carriers, including symbolic systems, relational systems, routines, and artifacts.
- Institutions operate at multiple levels of jurisdiction, from the world system to localized interpersonal relationships.
- Institutions by definition connote stability but are subject to change processes, both incremental and discontinuous . . .

In this conception, institutions are multifaceted, durable social structures, made up of symbolic elements, social activities, and material resources .

---

<sup>25</sup> Scott, W. R. (2001). *Institutions and Organizations (Second edition)*. Thousand Oaks, CA: Sage Publications, Inc.

. . . Institutions by definition are the more enduring features of social life . . . giving 'solidity' [to social systems] across time and space . . .

Institutions exhibit these properties because of the processes set in motion by regulative, normative, and cultural-cognitive elements. These elements are the building blocks of institutional structures, providing the elastic fibers that resist change . . . (pp. 48, 49)

An institutional perspective strengthens NPC Research's ability to understand, describe and evaluate the systematic forms that inter-organizational programs take in response to political, legal, social and economic environmental influences. This perspective assists in the discovery of how organizational resource application and inter-organizational linkages are affected by public policy choices and program initiatives.

### Transaction Cost Theory

Transaction cost economics is largely concerned with the organizational forms and processes that result in intra- and extra-organizational integration and differentiation. With a focus on the "transaction" – an economic exchange at the boundaries of or internal to organization(s) – transaction cost economics (referred to as "new institutional economics" by some) considers how organizations seek to economize on transaction costs. This perspective leads the researcher to consider whether organizational forms that are created as responses to transaction cost economizing are the optimal responses.<sup>26, 27, 28</sup> A focus on issues related to uncertainty reduction encourages the researcher

---

<sup>26</sup> Perrow, C. (1986). *Complex Organizations: A Critical Essay*. New York: McGraw-Hill, Inc.

<sup>27</sup> Scott (2001)

<sup>28</sup> Brint, S. and Karabel, J. (1991). Institutional Origins and Transformations: The Case of American Community Colleges. In W.W. Powell and P.J. DiMaggio (eds.), *The New Institutionalism in Organizational Analysis* (pp. 337 – 360). Chicago: The University of Chicago Press.

utilizing the NPC Research TCA Approach to consider whether observed manifestations of inter-organization and/or intra-organizational program-based integration contribute in positive or negative ways to predictable and desired outcomes.

The power of the concepts of transaction cost economics is enhanced by clearly joining it to one of the underlying assumptions of institutional theory – that the prospects for the survival of programs in complex and demanding environments cannot be viewed apart from the larger institutions upon which the programs are dependent.<sup>29</sup> Broadly-based institutions such as departments or jurisdictions provide institutional governance, direction and support resources that are essential to intra- or extra-agency program endurance. NPC Research makes the consideration of institutional resources an integral part of its cost evaluations.

#### The Practical Grounding of the NPC Research Approach

In addition to its theoretical roots discussed above, the NPC Research approach to cost evaluation has been enhanced by practice in public management in two basic ways. First, NPC Research's transaction cost analysis methods have been informed by prominent practical models of public resource policy-development, planning, programming and outcome assessment. Second, NPC Research staff members have developed understandings regarding evaluation of public resource utilization through their direct experiences in the management and evaluation of public programs. In the following sections the contributions of this practical grounding to the NPC Research approach will be discussed.

---

<sup>29</sup> Martinez, R.J. & Dacin, M.T. (1999). Efficiency Motives and Normative forces: Combining Transactions Costs and Institutional Logic. *Journal of Management* 25 (1), 75-97.

## Practical Discourse in Public Management

NPC Research's TCA Approach to public program cost evaluation has been significantly affected by a number of conceptual influences that arose in the discourse of public administration in the last third of the twentieth century. An understanding of these conceptual influences in the management of public agencies provides the researcher with a better understanding of the "real life" context within which agencies operate. The following list represents a partial summary of these influences.

- *Program Budgeting*. In program budgeting political leaders and public administrators consider traditional line-item budget information through the prism of larger activities pursued by agencies. In this approach to budget preparation and analysis agency expenditures are linked to explicit programmatic goals and objectives.<sup>30</sup>
- *Performance Budgeting*. Performance budgeting encompasses a family of budget planning approaches that emphasize the measurement of results as part of allocating public resources. The underlying idea of performance budgeting is a rational assessment of the linkage between measured outcomes and resource allocation. In the application of performance budgeting jurisdictional political and administrative leaders are usually interested in productivity improvement.<sup>31</sup>
- *Zero-based Budgeting*. Periodic consideration of the basic justification of programs and the resources that support them is the

---

<sup>30</sup> Morgan, D. and Robinson, K. (2000). *Handbook on Public Budgeting*. Portland, OR: Hatfield School of Government, College of Urban and Public Affairs, Portland State University

<sup>31</sup> Morgan and Robinson (2000)

core concept of zero-based budgeting. The rationale of zero-based budgeting and its less stringent variants is to assist policy-makers in clarifying programmatic choices in the allocation of scarce budgetary resources.<sup>32</sup>

- *Guidance of Professional Organizations.* Professional associations such as the International City and County Management Association (ICMA) and the Government Finance Officers Association (GFOA) provide on-going support for the promulgation and dissemination of concepts regarding the planning, budgeting and evaluation of the application of public resources. For instance, in its on-line website GFOA provides extensive information regarding best practices in public budgeting, including basic principles and important elements of such.<sup>33</sup>

#### NPC Research's Practical Experience

NPC Research's approach to the cost evaluation of public programs is heavily informed by its staff's experience as public agency practitioners and public program evaluators. Through experience gained in work for municipal, county and state agencies, NPC Research staff members have developed "front-line" perspectives regarding the marshalling of organizational resources in pursuit of program activities. This experience as public administrators is enhanced by experience that NPC Researchers have acquired in a wide variety of evaluations of local and state inter-agency programs.

---

<sup>32</sup> Morgan and Robinson (2000)

<sup>33</sup> Government Finance Officers Association (GFOA) (2002). "Best Practices in Public Budgeting." On-line: [www.gfoa.org/services/nacslb/](http://www.gfoa.org/services/nacslb/). Accessed August 20, 2002.



## Summary of the Theoretical and Practical Grounding of the NPC Research Cost Evaluation Approach

Table A-1 summarizes the contributions of the theoretical and practical roots of the NPC Research approach to public program cost evaluation.

**Table A-1 Contributions of the theoretical and practical roots of the NPC Research approach to public program cost evaluation.**

Source of Contribution	Nature of Contribution
Organizational Theory	Focus on organizational structures and process and their impacts on "transactional areas" of inter-agency/inter-jurisdictional program systems.
Institutional Theory	Understanding of the role of background institutions in providing stability for inter-agency/inter-jurisdictional programs through the provision of "institutional resources."
Transaction Cost Economics	Conceptualization of the processes of inter-organization integration that support the key "transactions" that characterize inter-agency/inter-jurisdictional programs.
Public Management Practice	Understanding of the public resource planning, programming and evaluation processes which program evaluation programs draw upon and support.
NPC Research Experience	A comprehensive view of the environment of public policy analysis and development that an effective program cost evaluation approach should support.

## Description of the NPC Research Transaction Cost Analysis Method

### Overview

The NPC Research TCA Approach to program cost evaluation is new to the realm of public program evaluation discourse. As a result, the procedures that it encompasses will be new and somewhat foreign to most readers. In light of this, in this section the basic components of TCA Approach methods will be briefly

described. The discussion deals with the TCA Approach in a generic sense – the way that it would generally be applied in a cost evaluation of any public agency. The application of the approach in the evaluation of the Anne Arundel County and Baltimore City drug courts discussed elsewhere in this report demonstrates how it is implemented in specific situations.

### **System Analysis**

Early in a program cost evaluation the NPC Research TCA Approach involves a clear mapping of the organizations that contribute resources to the service delivery system under consideration and the role(s) that they play. With the assistance of individuals who have been identified as knowledgeable regarding the program or programs to be evaluated, researchers create system maps or flowcharts that reflect how organizations link to support an area of public services. The system maps or flow charts, supported by tables or other visual aids, demonstrate with diagrams and words how organizational resources are linked and the nature of such linkages. The resultant picture or pictures frequently represent institutionalized patterns in or what may be referred to as “de facto institutions” that do not appear on the organizational chart of any one agency or jurisdiction and cannot be found as a program or set of line items in a public organization’s budget. Rather, these discernable entities of public action are composites of the human resource, budgetary and other organizational resource commitments of more than one (in some cases many more than one) jurisdiction, agency or agency fragment.

### **Identification of Transactional Linkages**

Integral to the NPC Research TCA Approach is an identification of the key transactions that define public goods production and service delivery systems. Transactions are identifiable, measurable outcomes of such systems. They are

characterized by clearly understood activities and activity-related costs. Transactions are the points where jurisdictions and agencies link to provide discrete criminal justice system, treatment system, social service system or other services in the public sector landscape. Transactions are measured on the basis of actual experience of the organizational subsystem(s) under consideration and their constituent supportive agencies. Thus, the nature, number and duration of organizational activities associated with transactions are identified and analyzed within the context of the actual experience of the constituent organizational units of subsystems. Visual representations of key system transactions typical of NPC Research cost analyses add additional layers of meaning to the flowcharts or other displays noted above.

### **Specification of Organizational Transactional Activities**

In the NPC Research TCA Approach the concept of “transactional areas” is important. Transactional areas can be visualized as the organizational “areas” where jurisdictional or agency resources come together to realize transactions. An agency’s role in the transactional area is first defined by the activities that it pursues in support of the transaction. These may be referred to as the “transactional activities” of the agency. Transactional activities are things that agencies do to help make transactions happen.

### **Specification of Organizational Transactional Resources**

Organizational “transactional resources” are the human and other resources that are directly engaged in transactional activities. Transactional resources are expressed in two forms – in terms of the amount of the resource that is consumed (e.g., minutes or hours of worker time) and in terms of the cost of the resource that is consumed (e.g., cost per hour of worker time).

### **Identification of Institutional Resources**

As indicated above, the NPC Research TCA Approach recognizes and proceeds on the basis of an understanding that agencies do not operate in isolation. They usually function within the context of larger organizations that provide direction, oversight and support for operating units. The larger organizational framework, or what may be referred to as the “institutional context,” provides direction and support for the agency’s application of transactional resources to transactional areas. The NPC Research TCA Approach refers to such jurisdictional organization resource commitments beyond the organizational boundaries of “transactional” agencies under consideration as “institutional resources.” Without such institutional support, agencies directly involved in transactions would not be able to provide transactional support in the transactional areas of inter-jurisdictional or inter-agency programs.

In the NPC Research TCA Approach the cost consequences of institutional support for transactional agencies are identified. Concurrent with the accumulation of direct cost information and the calculation of transactional costs, a similar procedure is followed for institutional costs. *The identification of all institutional cost consequences of all governance, oversight and support activities results in a more complete and realistic assessment of the cost consequences that are most frequently of greatest concern to public policymakers – **cost to taxpayers.***

### **The Concept of “Opportunity Resources”**

With the identification of the transactional and institutional resources that agencies commit to transactional areas, the researcher is able to see the

“opportunity resources” involved in this commitment. The idea of opportunity resources is similar to that of opportunity costs in economic theory. Opportunity resources represent the total resource commitments that agencies make to transactional areas and transactions – the building blocks of inter-agency/inter-jurisdictional programs – that are applied to one or one set of transactional area(s) of programs rather than to others. The interconnected ideas of transactional, institutional and opportunity resources offer a more complete picture of the impact of alternative organizational resource commitment than do such concepts as marginal and opportunity costs found in economic theory.

### **Unit Cost Analysis**

#### Translation of Transactional and Institutional Costs Into Unit Costs

With the acquisition of transactional and institutional cost information, it is a straightforward matter for researchers to translate such into program unit costs. Program unit costs represent the total cost consequences – the cost of the contributions of all agencies to transactional areas – of measurable products or services produced by inter-agency/inter-jurisdictional programs. The determination of program unit costs allows the researcher to calculate individual and aggregated costs of product or service consumption for any temporal framework. This information can also be disaggregated on the agency and jurisdictional level or further aggregated on the inter-agency/inter-jurisdictional system level.

### **Policy Analysis of Comparative Transactional Costs**

#### Cost to the Taxpayer

As noted above, the cost consequence that the NPC Research approach is ultimately concerned with is that which most concerns jurisdictional policy leaders – **cost to the taxpayer**. As a result, it focuses on the tangible activities of

public agencies that must be budgeted and accounted for by jurisdictional legislators and executives.

#### Application in a Cost-Benefit Analysis Framework

The cost accumulation and translation procedures described above are equally applicable to the calculation of the cost of programs and to the valuation of benefits that they generate. Just as the NPC Research TCA Approach is effective in the identification of transactions in the operation of programs under evaluation, it is equally useful in the exploration of the valuation of benefits in terms of reduced public agency activity costs as the result of the evaluated programs.

#### Time Valuation Considerations

The NPC Research approach generally considers the cost and benefit value of programs on bases that policy-makers, managers and practitioners can understand – current or nearly current budgetary and cost factors. However, the data that the NPC Research transaction cost analysis approach generates can also be manipulated in economic models to produce future effect values.

#### Implications For Policy Analysis and Decision-making

The system analysis and transactional, institutional and unit cost data developed in the process described above provide jurisdictional and agency policy-makers, managers and practitioners with a complete picture of the operation and value of inter-jurisdictional/inter-agency programs. The NPC Research Approach presents micro-level (e.g., agency unit cost contribution) and more macro-level (e.g., jurisdictional opportunity resources, program system cost) information.

The concept of opportunity resources described above linked to that of transactional area support allows policy-makers and jurisdictional managers to compare the implications of jurisdictional contributions to different transactional areas within and among public goods and services systems. The information that the NPC Research TCA Approach produces also facilitates comparisons that policy leaders may wish to make among agency transactional activities. Since the approach is grounded in the processes that policy leaders understand – budget preparation and human resource allocation, for example – it can be seen as particularly meaningful to them.

Diagram A-1 summarizes the major components of the NPC Research transaction cost analysis approach. It should be noted that for any given program evaluation there may be variations in the basic approach.

## **The NPC Research Program Cost Evaluation Approach As a Policy Analysis Tool**

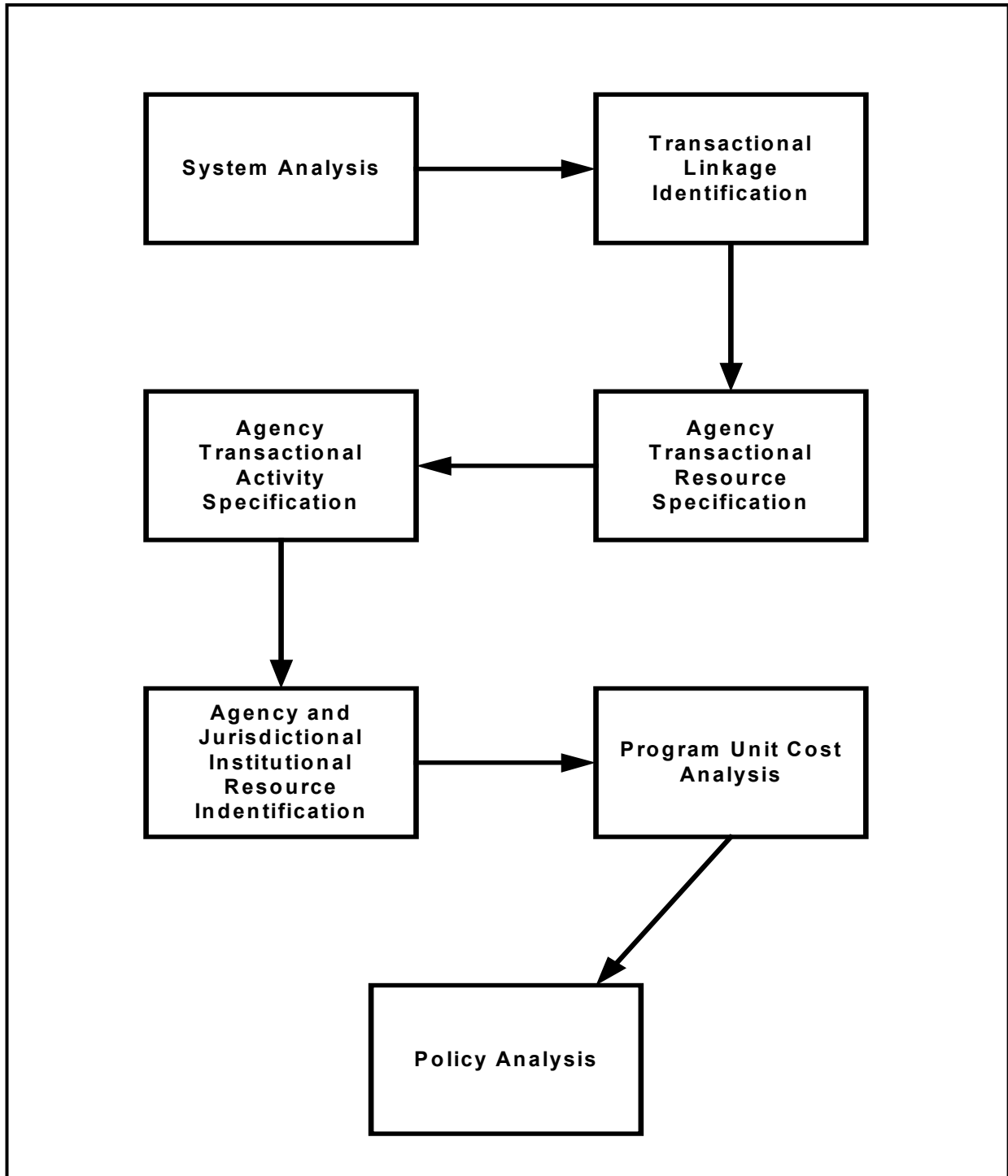
### **Overview**

The NPC Research TCA Approach to public program cost evaluation can be seen as valuable to policy analysis at three levels of discourse:

- For jurisdictional legislators and executives
- For department and agency managers
- For program practitioners

In the following subsections these three ways that the NPC Research TCA Approach is of value to policy analysis will be briefly considered.

Diagram A-1 The NPC Research transaction cost analysis process.





### **Value To Jurisdictional Policy Leaders**

The transaction cost analysis approach to program cost evaluation supports the governance and oversight missions of jurisdictional policy-makers with inter-jurisdictional/inter-agency program performance information that facilitates the adjustment of resource allocation within or among the transactional areas or agency structures that define policy systems. It assists them in visualizing and analyzing public goods and services production in ways that go substantially beyond typical organization charts and budgets. Policy-makers are assisted in understanding the resources that they allocate through operating and capital budgets as “opportunity resources.”

### **Value To Organizational Managers**

NPC Research's TCA Approach provides department and agency managers with tools for assessing their organizational component's relationships with other agencies within programmatic transactional areas. It also facilitates the development of performance information that impacts human resource planning, budget preparation, capital improvements planning and other management requirements.

### **Value To Organizational Managers**

The systems perspective of the TCA Approach can help managers and practitioners at the operating level to understand how their contributions to transactional areas fit into systems of public goods and services production.

## **Appendix B. Estimation of the Baltimore City Drug Treatment Court and “Business As Usual” Criminal Justice System Cost Environments**

### **Introduction**

As was indicated in the discussion of the NPC Research TCA Approach in Appendix A., the first step in NPC Research’s analysis of the cost environment of public service systems such as the Baltimore City Drug Treatment Court (“BCDTC”) and “business as usual cost environments is to identify the organizational arrangements that give form to these complex systems. The cost analysis section of this report included a list of the agencies that play transactional roles in the BCDTC and “business as usual” processes and a summary of the roles that they play. These agencies include: District Court of Maryland, Baltimore City; Circuit Court of Maryland, Baltimore City; Baltimore City County State’s Attorney’s Office; Maryland Office of the Public Defender, Baltimore City; Baltimore City Health Department; Maryland Department of Public Safety and Correctional Services (“DPSCS”), Division of Pre-trial Detention and Services; and, Maryland DPSCS, Division of Parole and Probation.

In the following subsections the general methods involved in constructing the resource contributions of the agencies listed in the preceding paragraph will be briefly discussed. Agency representatives who provided assistance in this effort and the nature of their assistance will also be noted. Detailed worksheets regarding specific calculations can be provided upon request.

District Court of Maryland, Baltimore City and Circuit Court of Maryland,  
Baltimore City

The Courts play the most expansive and expensive transactional roles in the operation of the BCDTC. They also represent a substantial portion of the “business as usual” criminal justice system cost environment.

In terms of the BCDTC program, in addition to administration of program elements that are unique to the BCDTC program, the Courts are also responsible for courtroom activities involved in participant progress review sessions and administrative activities associated with the maintenance of participant case files. NPC Research identified specific District Court activities and staff commitments through personal interviews with Honorable Miriam Hutchins, District Court Judge and Lonnie P. Ferguson, Jr., Administrative Clerk, District Court of Maryland. After experimenting with a variety of methods to determine the District Court and Circuit Court transactional and institutional<sup>34</sup> costs, NPC Research determined that the approach that would best capture the total budgetary commitments made to the BCDTC through the District Court and Circuit Court operations would be to load proportions of the total Maryland District Court and Circuit Court budgets onto the transactional time that District Court and Circuit Court Judges commit to BCDTC. Through an analysis of the State of Maryland's FY2002-2003 operating budget for the Maryland Judiciary, an hourly rate for the District Court and Circuit Court Judge positions was constructed. This rate was multiplied by the amount of Judge time committed to each BCDTC case. The amount of time dedicated to each case was determined by dividing the amount of time that District and Circuit Court Judges commit to BCDTC each week by the average weekly caseload. NPC Research accounted for State of Maryland overhead and other Maryland Judiciary

---

<sup>34</sup> As discussed in Appendix A., “institutional costs” represent agency support and jurisdictional overhead costs associated with the transactional costs in question.

support resources that support District Court and Circuit Court activities through analysis of the State of Maryland's FY2002-2003 operating budget. The resultant rate, including direct and indirect costs, was linked with the number of BCDTC session appearances that the researchers identified for each program participant to determine the District Court and Circuit Court cost per participant.

Regarding the "business as usual" cost of processing cases through the criminal justice system, the researchers obtained case load information from the Maryland Administrative Office of the Court and combined it with a court cost model constructed from the Maryland operating budget to create District and Circuit Court costs per case. The costs per case were combined with the recidivist data on the samples resulting in the average cost findings reported in the cost analysis section.

#### Baltimore City State's Attorney's Office ("BC-SAO")

As was described in the cost analysis section of the report, Assistant State's Attorneys screen potential BCDTC program participants and represent the State through attendance at BCDTC sessions. The BC-SAO also maintains case files for each BCDTC participant. Through personal interviews and e-mail exchanges with Page Croyder and Albert Phillips, Assistant State's Attorneys, NPC Research identified BC-SAO resource commitments to BCDTC. Ms. Croyder provided the researchers with cost information associated with staff commitments to BCDTC. The BC-SAO cost per case was determined by dividing the total BC-SAO cost per week by the number of cases heard in each Court per week and linking such to the number of appearances identified for each BCDTC participant. A jurisdictional overhead rate was constructed from an analysis of the Baltimore City operating budget.

Ms. Croyder also provided the researchers with “business as usual” caseload data that the researchers combined with the BC-SAO staff and overhead cost data. The result was a BC-SAO cost per case that was combined with the recidivist data obtained by the researchers to generate the average costs indicated in the cost analysis section.

#### Maryland Office of the Public Defender (“OPD”)

The OPD represents BCDTC participants and indigent individuals in “business as usual” adjudication. NPC Research identified the staff resource commitments of OPD to BCDTC through personal interviews and e-mail correspondence with Elizabeth L. Julian, District Public Defender and Robin Ullman, Assistant Public Defender. The researchers constructed a model of cost per case represented by OPD from an analysis of the State of Maryland operating budget.

In terms of the cost of “business as usual” case representation, the researchers obtained OPD caseload data from OPD administrative documents and combined them with their analysis of the OPD budget to generate a cost per case that could be combined with the individual level recidivism data.

#### Baltimore City Health Department (“BC-HD”)

As discussed in the cost analysis section of the report, BC-HD contracts with Baltimore Substance Abuse Systems, Inc. to provide substance abuse treatment services for the Baltimore City criminal justice system. The researchers obtained from BSAS the daily cost for the modalities of service provided and combined such with the individual level data that BSAS provided regarding the number of days of each service provided to each sample member. The result was the total treatment cost per member of the samples.

Maryland Department of Public Safety and Correctional Services (“DPSCS”).

Benjamin F. Brown, Deputy Commissioner, DPSCS, Division of Pre-trial Detention Services provided staffing and activity data that the researchers combined with cost data constructed from the Maryland Operating Budget. The result was a cost per day of incarceration, cost per booking episode and cost per court transport episode.

Through an analysis of the budget for the Parole and Probation Division of DPSCS the researchers constructed a cost per day of probation that was applied to time on probation data that DPSCS provided. The results were the average costs per sample member reported in the cost analysis section of the report.

## Appendix C. Estimation of A Model of Victimization Costs

### Introduction

One of the most important consequences of reductions in crime is the resultant reduction in costs to victims. A notable portion of the recent literature committed to the examination of the costs and benefits of crime prevention address the victim's perspective.<sup>35</sup> Consideration of victim's costs have not only included examination of tangible costs such as property damage, lost wages, medical costs and increased insurance premiums, but have also sought to place monetary value on intangible dimensions such as the pain and suffering of victims and/or the families of victims. Although victimization costs are not normally considered to be direct costs to taxpayers, NPC Research believes that public responses to increased victimization – increased law enforcement costs and new jail space construction, for example – ultimately become direct costs to the public. As a result, an examination of potential savings in victim costs associated with reduced crime resulting from drug courts has been included in this cost analysis.

In its interest to include a consideration of victim costs, NPC Research turned to an authoritative source produced under the auspices of the National Institute of Justice - Miller, Cohen, and Wiersma's 1996 monograph entitled *Victim Costs and Consequences: A New Look*. In this report the authors provide an index of the total tangible and intangible victims costs associated with 22 different crimes. NPC Research identified seven classes of crimes in this list that it believes to cover the type and magnitude of recidivist crimes committed by the sample members included in this study: child abuse and neglect; assault; robbery; drunk

---

<sup>35</sup> For an introduction to this body of literature see Cohen, M.A. (2001) "The Crime Victim's Perspective in Cost-Benefit Analysis: The Importance of Monetizing Tangible and Intangible Crime Costs," in Welsh, B.C., Farrington, D.P. and Sherman, L.W. (Eds.), *Costs and Benefits of Preventing Crime*. Boulder, CO: Westview Press.

driving; larceny; burglary; and motor vehicle theft. Although NPC Research recognizes that it would only serve as a relatively rough indicator of victim costs, the researchers took the costs identified by Miller, Cohen and Wiersma and calculated the average cost per incident adjusted by the Washington-Baltimore CPI of these crime types. The researchers used this modeled cost as the victimization cost per crime to apply to the recidivist data that it identified for each sample member. Table C-1 includes the Miller, Cohen and Wiersma costs per crime type, the CPI adjustment made by NPC Research and the average victimization cost used in the cost analysis.

**Table C-1. NPC Research's calculation of victimization cost for the Maryland drug treatment court cost analysis.**

Category of Crime	1996 Cost	2003 Cost
Child abuse, neglect	60,000	74,328
Assault	9,400	11,645
Robbery	8,000	9,910
Drunk driving	18,000	22,298
Larceny	370	458
Burglary	1,400	1,734
Motor vehicle theft	3,700	4,584
Averages	14,410	17,851



## Appendix D. Estimation of Increases in Income Taxes Paid By BCDTC Sample Graduates

In his 1996 report entitled, *Societal Outcomes and Cost Savings of Drug and Alcohol in the State of Oregon*, Dr. Michael W. Finigan of NPC Research found that individuals who completed alcohol and drug treatment realized substantial increases in income as compared to a comparison sample. This increase in income results in substantial increases in state income taxes paid. Since graduates of the BCDTC program successfully complete substance abuse treatment, NPC Research believes that it is reasonable to use the results of the 1996 study to predict estimated increased income taxes paid by BCDTC. As a result, NPC Research applied Finigan's findings to the 217 individuals who graduated from BCDTC during the study period to predict their increases in incomes as compared to the comparison sample for one year after program graduation. It then used information from the Comptroller of Maryland's website to calculate the estimated tax paid by each group. Table D-1. demonstrates the results of this analysis.

**Table D-1. NPC Research's estimation of income taxes paid by BCDTC sample graduates.**

Study Group	1996 Income	Change in Washington- Baltimore CPI	2003 Income	Estimated Maryland, Local Income Tax Paid
1996 Finigan Comparison Sample as a Proxy for BCDTC Comparison Sample	12,935	17.5%	15,199	789.82
1996 Finigan Treatment Completion Sample as a Proxy for BCDTC Sample Graduates	19,240		22,607	1,367.64
Differences	6,305		16,932	577.82
	BCDTC Graduates			217
	Increase in income taxes paid			\$125,387

