



MINNESOTA YOUTHBUILD PROGRAM:

A MEASUREMENT OF COSTS AND BENEFITS TO THE STATE OF MINNESOTA



**Commissioned by the Minnesota Youthbuild Coalition
Prepared by MDES staff
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I. Executive Summary

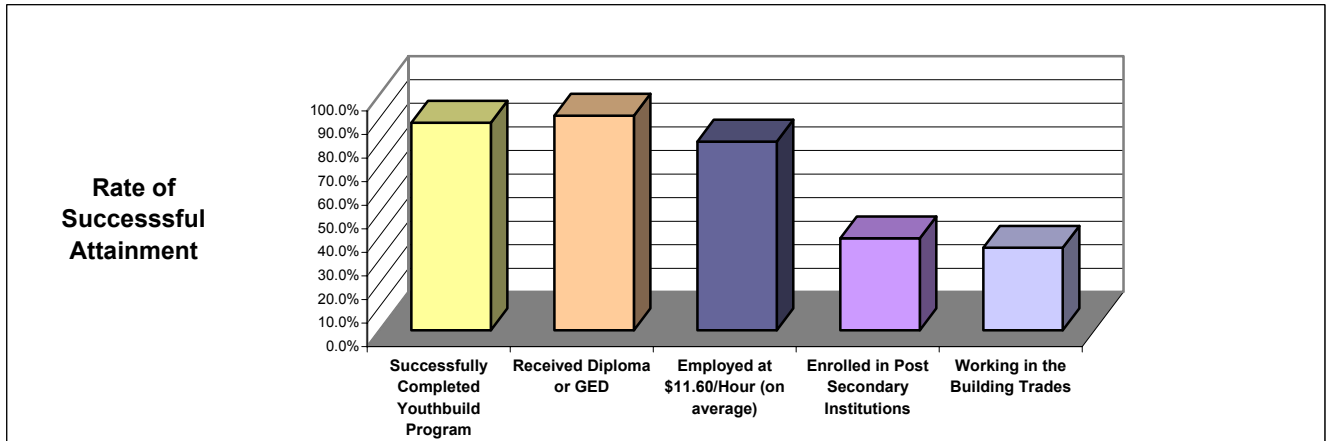
This report examines state related costs and benefits attributable to the Minnesota Youthbuild program and whether the economic benefits of the Minnesota Youthbuild program exceed the state's cost of administering and operating the program (currently \$877,000 per year). This study specifically measures the benefits of increased earnings, state taxes paid by participants on these earnings, and reduced state prison costs of participants with a prior offense. The study measures the net benefits generated by trained Youthbuild participants, after subtracting out benefits that may have accrued in the absence of program training and after adding in the state's cost of operating and administering the program.

In this analysis, the empirical evidence suggests that each new group (cohort) of youth trained in the Minnesota Youthbuild program generates approximately \$350,000 per year in additional state tax revenues and \$1.2 million in state prison cost savings in the first year after exiting the program.¹ This translates into approximately \$1.5 million in direct benefits to the state in the first year after a participant cohort exits the program, compared to the state's cost of \$877,000 per year. Thus, it appears that **Minnesota's investment in Youthbuild participants appears to pay off within the first year after participants complete the program.** These cost savings become more significant when measuring the cumulative benefits of overlapping participant cohorts in a four year period: *a total direct net benefit to the state of \$7.3 million by 2006²* (see Figure 7, page 9).

II. Overview of the Minnesota Youthbuild Program: Characteristics and Performance Outcomes

In 2002, the Minnesota Youthbuild program served 398 youth, aged 16-24, across the state. Approximately 90% had dropped out of high school, 66% were youth offenders, 75% were on public assistance, 55% had chemical abuse or use issues, a third had disabilities, a quarter had experienced homelessness, and 1 in 5 were pregnant or parenting teens. The Minnesota Youthbuild program's purpose is to assist at-risk youth in completing their high school education, provide leadership development along with reduction of at-risk behaviors, and transition youth into employment and/or enrollment in post secondary institutions.

Figure 1
2002 Minnesota Youthbuild Program Performance Outcomes



Based on raw data collected each year on participant performance outcomes, 91% (362) of all Youthbuild participants successfully completed high school or obtained a GED in 2002, 39% (155) enrolled in a post secondary institution, and 80% (318) entered unsubsidized employment with an average starting wage of \$11.60 an hour. Approximately half of those employed (156) entered the building trades fields in construction jobs or schools for advanced construction skills training (see Figure 1). Approximately 5% (14) of Youthbuild participants with one or more offenses prior to enrollment were re-arrested, re-convicted, and/or returned to a state correctional facility within two years after enrollment in the Minnesota Youthbuild program.

1 For each new group of participants enrolled for an average of twelve months in the program (defined as a participant cohort). Each program cycle (each new year) generates a new participant cohort. The 398 Youthbuild participants from the PY (program year) 2002 participant cohort were enrolled in the program during the period July 1, 2001 to June 30, 2002. They graduated or exited the program on or by June 30, 2002.

2 Each participant cohort generates increased revenues and cost savings to the state in each of the years immediately following program participation. These monetary benefits are expected to overlap among participant cohorts in the four year period studied for this analysis (see appendix notes for a more detailed explanation).

III. Calculation of Employment Benefits

Research Literature on Employment/Earnings: Used to Estimate Earnings of Comparison Group

Based on a report by the Office of Juvenile Justice and Delinquency Prevention (OJJDP) issued in November 2000, only 11 percent of high school dropouts are employed in jobs that pay \$300 or more per week. Also, a US Department of Education Individuals with Disabilities Education Act study (1996) states that “urban youth with disabilities³ are less likely to graduate from high school, less likely to enroll in postsecondary education, and less likely to be employed in the years immediately after high school. Their relatively low high school graduation rates leave them ill-prepared for many employment opportunities. As a result, their earnings potential is severely limited.” Most Youthbuild participants, prior to enrollment, have burned all their bridges with employers in their local communities. Approximately half live in small rural communities that experience high rates of unemployment and a scarcity of livable wage jobs. Given the research literature linking low earnings and employment rates to untrained at-risk youth (in the absence of program services and job training), it is assumed that fewer numbers of program participants would be able to secure employment, and, if so, at lower wage rates.

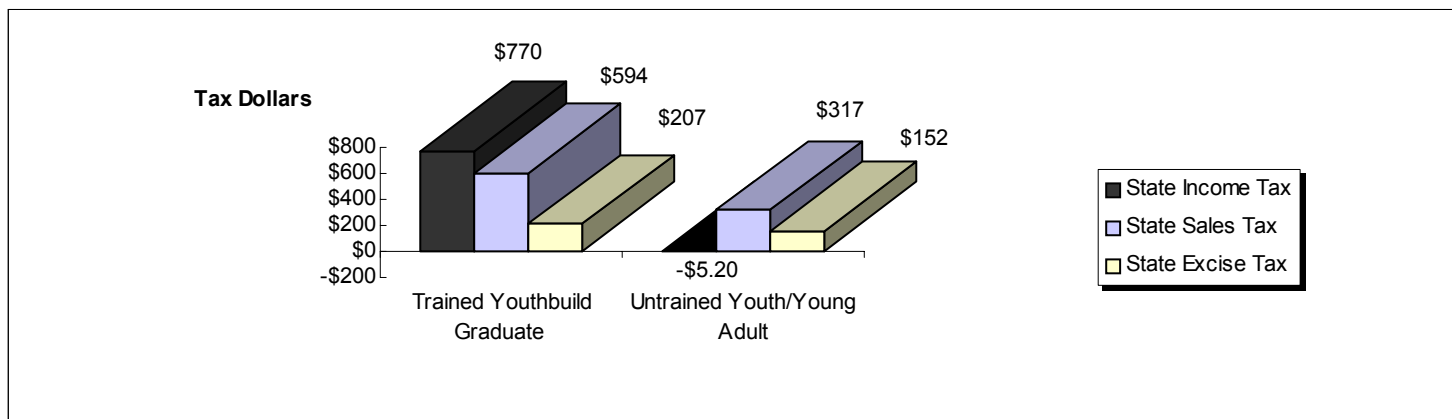
Given these factors, it may be assumed that Youthbuild participants would have been employed at minimum wage (\$5.15), with no fringe benefits, in the absence of training⁴. This job would yield an annual income of \$10,712 for a full-time, uninterrupted 12 months of employment per individual. Based on raw data collected on program participants up to 24 months after exiting the program, Youthbuild graduates have been able to secure non-subsidized, full-time employment paying an initial wage of \$11.60 an hour on average, generating average annual incomes of \$24,128 per year. In addition, fringe benefits of approximately 25% of wages have also been obtained in securing full-time higher wage employment by most Youthbuild graduates.

IV. Calculation of Tax Benefits to the State

One of the most direct measures of monetary benefits to the state of Minnesota is the calculation of state tax revenues generated by increased earnings of Youthbuild graduates as compared to those who did not receive program services or job training. State income tax, state sales tax, and state excise tax revenues are derived from the 2001 Minnesota Tax Incidence Study by the Minnesota Department of Revenue, providing the most recent data on state tax burdens across varying income levels. The data from the figures and tables listed below are weighted averages derived from Tables D-1 and D-2 of the 2001 Minnesota Tax Incidence Study for categories of Youthbuild graduates and untrained comparison group (working uninterrupted, at full-time for minimum wage):

Figure 2

Annual State Tax Dollars Generated Per Youthbuild Graduate vs. Untrained Comparison Youth or Young Adult



³ ie. learning disabled, emotionally-behaviorally disabled (EBD), mentally or physically disabled.

⁴ Assumption is based on similar “comparison group” assumptions made by the State Demographer’s office: “Measuring the Benefits of Twin Cities RISE” (1995). Additional considerations include: anecdotal information from staff of the program grantee agencies suggesting that at-risk youth in their communities are often unemployed, living at home or with a friend’s family, involved in criminal behavior, and/or earning income through illegal means.

To measure the increase in state tax revenues generated from the additional earnings of program graduates as compared to an untrained comparison group, the weighted average tax burden of the two groups of Youthbuild graduates (with and without dependents) are compared to the weighted average tax burden of the two groups of untrained youth (with and without dependents) earning minimum wages⁵. The total state tax burden per household for trained and untrained at-risk youth is depicted in Figure 2 and Table 1.

Table 1
Weighted Average of Annual State Tax Burden Amounts

	Trained Youthbuild graduate working full-time @ \$11.60 per hour wages (both with and without dependents)	Untrained, at-risk youth working full-time @ \$5.15 per hour wages (both with and without dependents)
Average Household Income per annum	\$24,128	\$10,712
State income tax	\$770.16	-\$5.20
State sales tax	\$594.43	\$316.60
State excise tax	\$207.23	\$151.60
Total state tax burden per household (sum of income, sales, excise taxes) per year	\$1,571.82	\$463

After subtracting out the benefits that may have accrued in the absence of training (from an untrained comparison group) the data in Table 1 suggests that the state tax revenues generated by increased earnings of Youthbuild graduates is equivalent to \$1,108.82 per participant. Across all employed 2002 Youthbuild graduates, the total increase in state tax revenues each year may be expected to be \$352,604.76. The cumulative total increase in state tax revenues generated by these program graduates over a four year period is projected to be \$1.4 million.⁶

Table 2
Cumulative Total Increase in State Tax Revenues Generated by Increased Earnings of 2002 Youthbuild Graduates
(after subtracting out tax revenues generated by comparison group)

1 st Year after graduating from the MN Youthbuild program	\$352,605
2 nd Year after graduating from the MN Youthbuild program	\$705,210
3 rd Year after graduating from the MN Youthbuild program	\$1,057,814
4 th Year after graduating from the MN Youthbuild program	\$1,410,419

The additional state tax revenues (shown in Table 2) accrue each year upon *each* participant group (or cohort) graduating from the program and securing unsubsidized employment. Given this, it may be expected that over a four year period of time, additional state tax revenues accrue over the years immediately following graduation of *each* cohort of Youthbuild participants that secure unsubsidized employment. Thus, the cumulative total increase in state tax revenues generated by program graduates across all participant cohorts (after subtracting out minimum wage earnings benefits of an untrained comparison group) is expected to increase significantly over a four year period, given that Youthbuild graduate wages and employment rates do not decrease over time⁷. Table 3 depicts the total cumulative increase in state tax revenues generated by increased earnings of program graduates over a four year period, a total of \$3.5 million.

⁵ See appendix (p. 12) for determination of weighted average figures calculation from Tables D-1 and D-2 from the 2001 MN Tax Incidence Study.

⁶ A four period of time was examined because it allowed for a simpler analysis without the use of discounting and rates of return needed in several year longitudinal studies.

⁷ Table 2 may underestimate additional tax revenues generated by program graduates given their wages in the building trades and other skilled jobs are likely to increase at a faster rate over the four year period following graduation than for a comparison group of entry level minimum wage workers without a high school diploma or GED.

Table 3

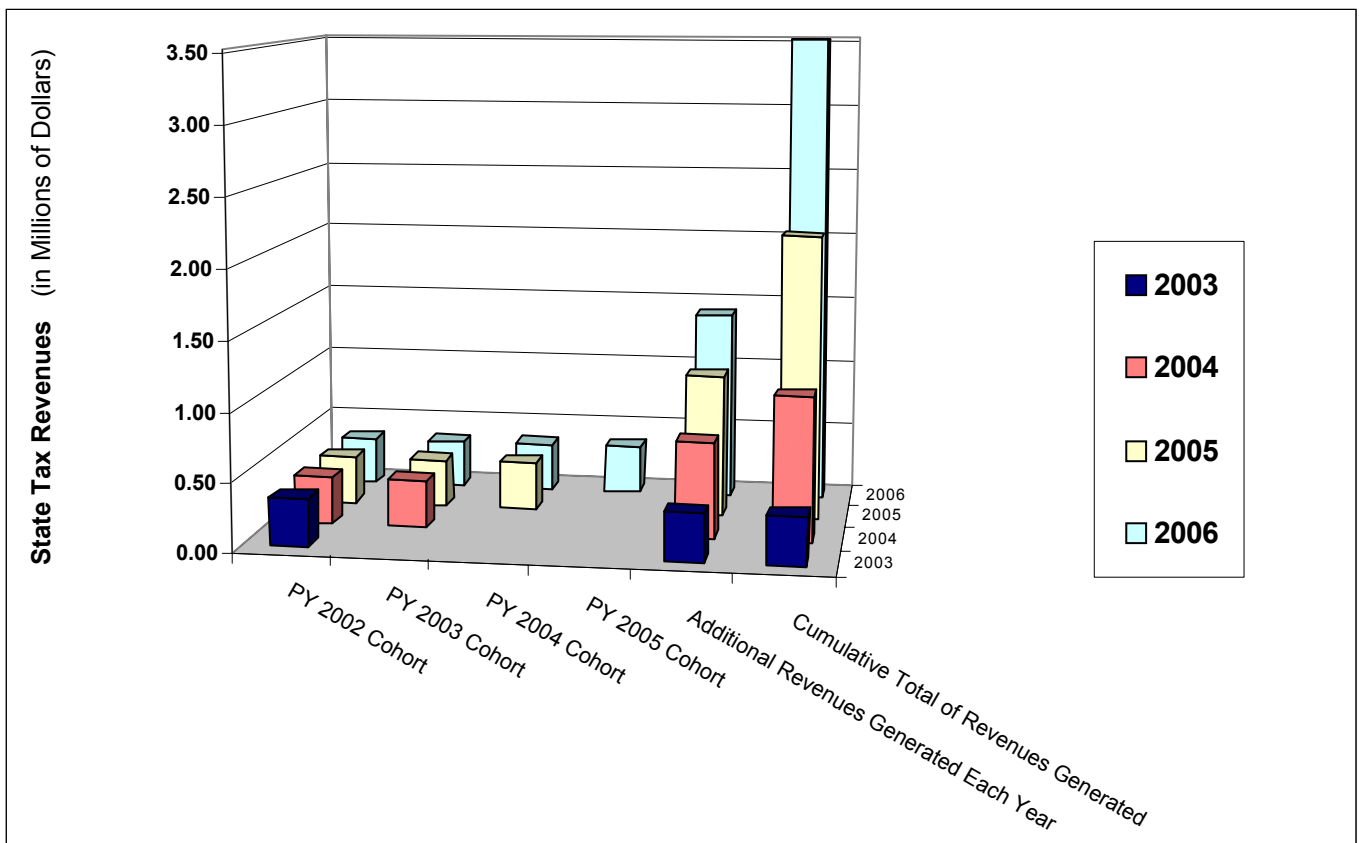
**Cumulative Total Increase in State Tax Revenues Over a Four Year Period
Generated by Program Year (PY) 2002 to PY 2005 Youthbuild Participant Cohorts**
(after subtracting out benefits accrued in the absence of training from comparison groups)

(in the thousand of dollars)

Program Participant Cohort by Year of Graduation	Year 2003	Year 2004	Year 2005	Year 2006	Cumulative Four Year Total within each Participant Cohort
Program Year 2002 Participant Cohort	\$352.6	\$352.6	\$352.6	\$352.6	\$1,410.4
Program Year 2003 Participant Cohort		\$352.6	\$352.6	\$352.6	\$1,057.8
Program Year 2004 Graduate Cohort			\$352.6	\$352.6	\$705.2
Program Year 2005 Participant Cohort				\$352.6	\$352.6
Total Cumulative Increase in State Tax Revenues Generated by Program Graduates Across Cohorts	\$352.6	\$705.2	\$1,057.8	\$1,410.4	\$3,526

Figure 3

Increase in State Tax Revenues Over a Four Year Period Generated from Increased Earnings of Youthbuild Graduates (Across PY 2002 to PY 2005 Participant Cohorts)

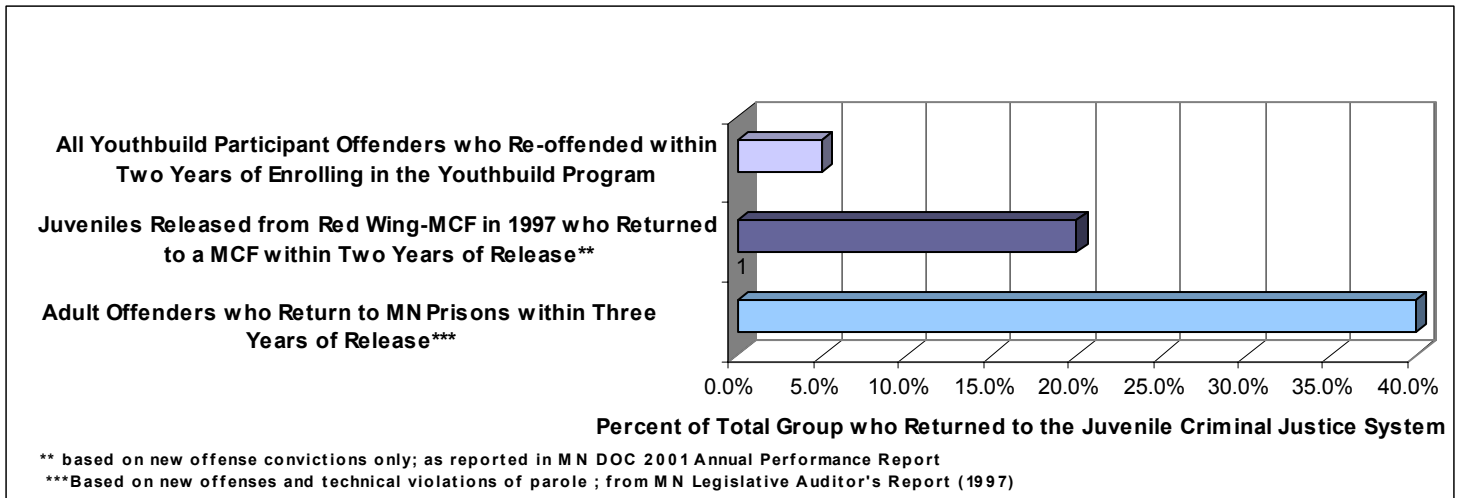


V. Calculation of Savings Due to Reduced Youth Crime and State Prison Cost Reductions

Research Literature on Recidivism: formulating juvenile and adult re-offender comparison groups

One of the most comprehensive studies on recidivism, conducted by the US Department of Justice (2002), examined re-arrest, re-conviction and re-incarceration rates for a sample of over 250,000 prisoners released from prisons in Minnesota and 14 other states. Within three years of their release in 1994, the study found that 67% of the prisoners were re-arrested for new crimes and 52% returned to prison. The study also found that the younger the prisoner when released, the higher the rate of recidivism. For example, over 75% of those age 24 and under were re-arrested, compared to 45% of those 45 and older. A Minnesota Office of Legislative Auditor study (1997) found slightly lower levels of recidivism among adult felons released from prison in Minnesota- a total of 40% of all adult felons returned to prison in Minnesota within three years of release for both new offenses (28%) and technical violations of parole (11%). The same study found released prisoners most likely to be rearrested were car thieves and burglars, offenses typically committed by youth and young adults.⁸ Data from the Minnesota Department of Corrections (MN DOC) 2001 Annual Report reported a 20% rate of return for juveniles within two years of being released in 1997 from Red Wing-Minnesota Correctional Facility (MCF) for committing new offenses.

Figure 4
Recidivism Rates by Selected Groups



Measuring the Cost of Returning to Prison: for program participants and juvenile and adult comparison groups

Cost savings to the state’s corrections system, for purposes of this analysis, were calculated using PY 2002 MN Youthbuild program data on rates of re-arrest, re-conviction, and returning to a correctional facility, which was collected during program enrollment and at 6,12 and 24 month follow-up intervals after enrolling in the program. Sixty-six percent (263) of PY 2002 Youthbuild program participants had previously been re-arrested, re-convicted, or imprisoned as adults or adjudicated as juveniles and committed as delinquent to a juvenile facility prior to their enrollment in the MN Youthbuild program. Of these 263, 14 (5.3 %) were re-arrested, re-convicted, or incarcerated as young adults within two years of their enrollment in the MN Youthbuild program.⁹ This 5.3% figure was then compared to the rate in the MN DOC 2001 Annual Report, which found a 20% rate of return for juveniles within two years of release in 1997 from Red Wing-MCF (based on new offenses only).

8 MN DOC 2001 Annual Report states that 59% of juveniles released from MCF-Red Wing in 1997 were originally admitted for property crimes. Data from Juvenile Apprehensions and Adult Arrest records by the State Demographers Office show that the majority of all property crimes in MN are committed by those aged 19 years and younger.

9 This study assumes that all Youthbuild participants (with prior offenses) who exit the program are 18 years and older, thereby placing re-offenders in the adult criminal system. This assumption may slightly underestimate the state’s costs since the average annual cost per juvenile in Minnesota’s Juvenile Correction Facility-Red Wing is estimated to be about \$70,000. Approximately 10% of Youthbuild program participants exit the program before age 18, thereby placing them under juvenile jurisdiction for an average period of 12 months.

In measuring the cost of recidivism, this analysis examines only the percentage of young adult offenders who return to state correctional facilities, thereby producing a direct cost to the state of managing and maintaining this incarcerated population. It does not examine the state's cost of probation or parole of convicted or released adults (or committed or released juveniles). It is assumed that all Youthbuild participants (with prior offenses) are 18 years and older upon exiting the program, thereby placing re-offenders in the adult criminal system.¹⁰ In 2001, the average cost per adult inmate in state correctional facilities, programs, and other correctional services was \$86.26 per inmate, per day (per diem cost) or \$31,485 per year.¹¹ The median prison sentence for adult offenders in 1994 was 30 months. While many states have parole boards that decide when to release offenders from prison, nearly all imprisoned offenders in Minnesota are required by law to serve at least two-thirds of their sentence (20 months on average) in prison before their "supervised release" to the community¹².

Table 4
The State's Costs of Juvenile and Adult Offenders Returning to State Correctional Facilities

Based on Youthbuild program participant and comparison group size of N=263 each	Number of individuals who returned to prison	Monthly cost of returning to a state correctional facility @ \$2,623.74 per inmate	Total state cost based on average prison stay of 20 months
52% Rate of Return within Three Years of Release in 1994 for Adult Offenders ¹³ (2002 US Department of Justice study)	136.8	\$ 358,822.12	\$ 7,176,442
40% Return Rate to Prison within Three Years of Release in 1994 for Adult Offenders in MN ¹⁴ (1997 Legislative Auditor study)	105.2	\$ 276,017	\$5,520,340
20% Return Rate to Prison within the Two Years of Release from MCF-Red Wing in 1997 for Juvenile Offenders ¹⁵ (MN DOC 2001 Annual Report)	52.6	\$138,008.51	\$2,760,170
5.3% Re-arrest, Re-Conviction, and/or Return to Prison within the Two Years of Enrolling in the MN Youthbuild Program for Participants with one or more prior offenses (2002 Youthbuild Program Performance data)	14	\$ 36,732.34	\$ 734,646

The state's prison cost savings attributable to less crime committed by program participants takes the difference in prison costs of Youthbuild participants (N= 263 with a 5% return rate) and comparison groups (N=263 with a 20% return rate)¹⁶. The difference in cost savings between the two groups across participant cohorts (PY 2002 to PY 2006) over a four year period is summarized in Table 5 (below). The annual cost savings is expected to be \$1.2 million in the first year (\$1.66 million minus \$441,000). The cost savings over an average prison stay of 20 months is expected to be \$2 million (\$2.7 million minus \$735,000). The cumulative total of state prison cost savings over a four year period is estimated to be \$7.3 million.

10 Approximately 10% of Youthbuild program participants exit the program before age 18, thereby placing them under juvenile jurisdiction for an average period of 12 months.

11 From MN DOC 2001 Annual Report

12 From a study by the MN Office of Legislative Auditor, as directed by the Legislative Audit Commission on May, 1996

13 Based on both new offenses and parole violations that resulted in returning to prison (US Department of Justice study (2002))

14 Based on both new offenses and parole violations that resulted in returning to prison, Legislative Auditor study (1997)

15 Based on both new offenses *only* resulting in returning to prison; MN DOC 2001 Annual Report.

16 Juveniles released from MCF-Red Wing in 1997 with a rate of return to prison of 20% within two years of release is based on new offenses *only* (from 2001 MN DOC Annual Report).

Figure 5
Total State Cost per Average Prison Stay of 20 months for Groups
with Varying Rates of Recidivism/Return to Prison
 (N=263 for each group)

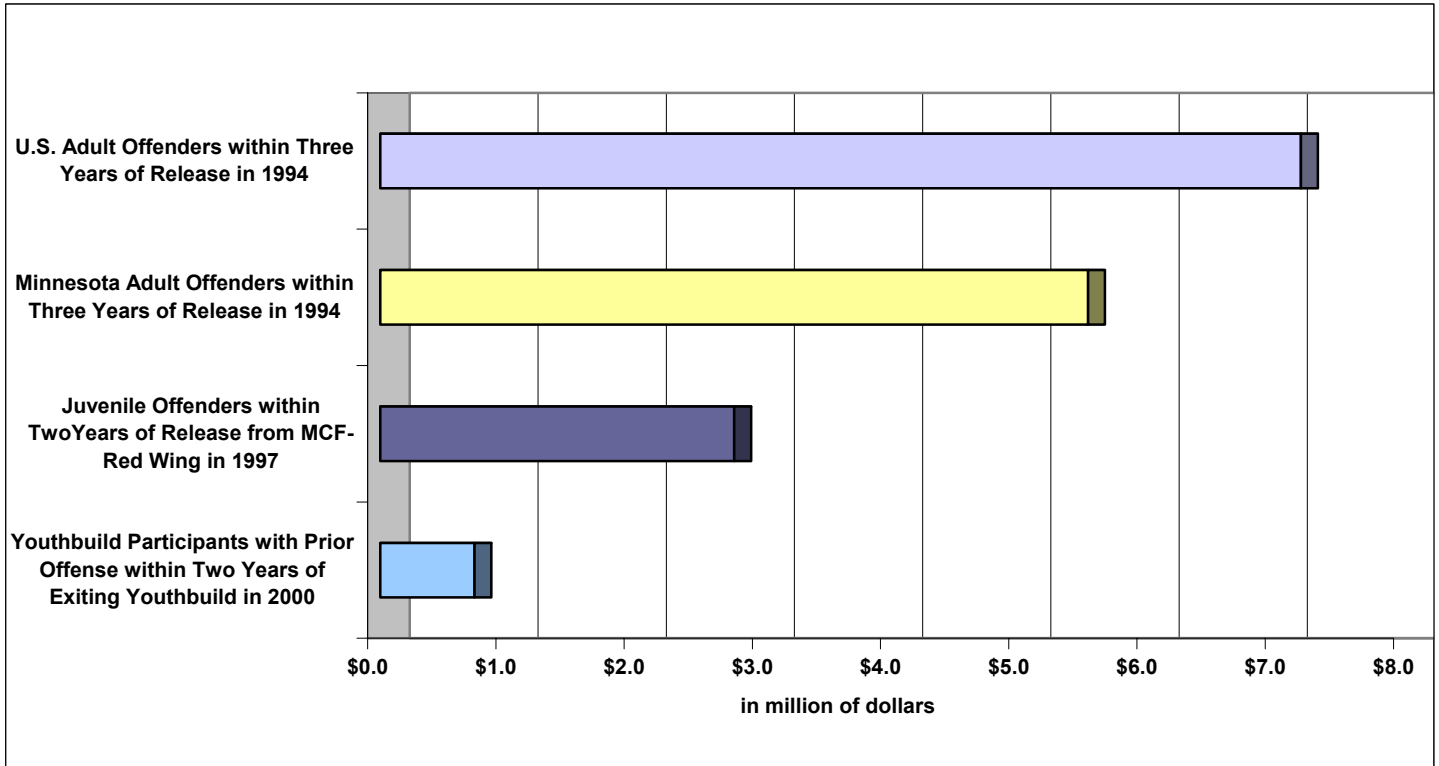


Table 5
Total State Prison Cost Savings Over Four Years for Four Youthbuild Participant Cohorts
 (in thousands of dollars)

Cost Savings for Cohort Groups (after subtracting out comparison group costs)	State Prison Cost Savings in 2003	State Prison Cost Savings in 2004	State Prison Cost Savings in 2005	State Prison Cost Savings in 2006	Combined Four Year Costs Savings to the State
PY 2002 Participant Cohort	\$1,215.3	\$810.2			\$2,025.5
PY 2003 Participant Cohort		\$1,215.3	\$810.2		\$2,025.5
PY 2004 Participant Cohort			\$1,215.3	\$810.2	\$2,025.5
PY 2005 Participant Cohort				\$1,215.3	\$1,215.3
Total Cost Savings Across Cohorts	\$1,215.3	\$2,025.5	\$2,025.5	\$2,025.5	\$7,291.8

VI. Calculation of State's Cost to Operate Youthbuild

In 2002, the state's total cost of operating and administering the Minnesota Youthbuild program for 398 participants was \$877,000. This figure includes administrative as well as direct program service costs.¹⁷ The average duration of participation in the Minnesota Youthbuild program is approximately 12 months. The average cost per participant is calculated to be \$2,200. Over a four year period of constant state funding, the states' cumulative cost of operating and administering the program is expected to be \$3.5 million.

¹⁷ the maximum administrative costs allowable is 6% per grantee and 5% for state staff oversight and administration. Additional matching funds leveraged by the program, totalled over \$4 million last year, primarily go for housing construction materials and labor costs (HUD federal YouthBuild Program and Habitat for Humanity resources).

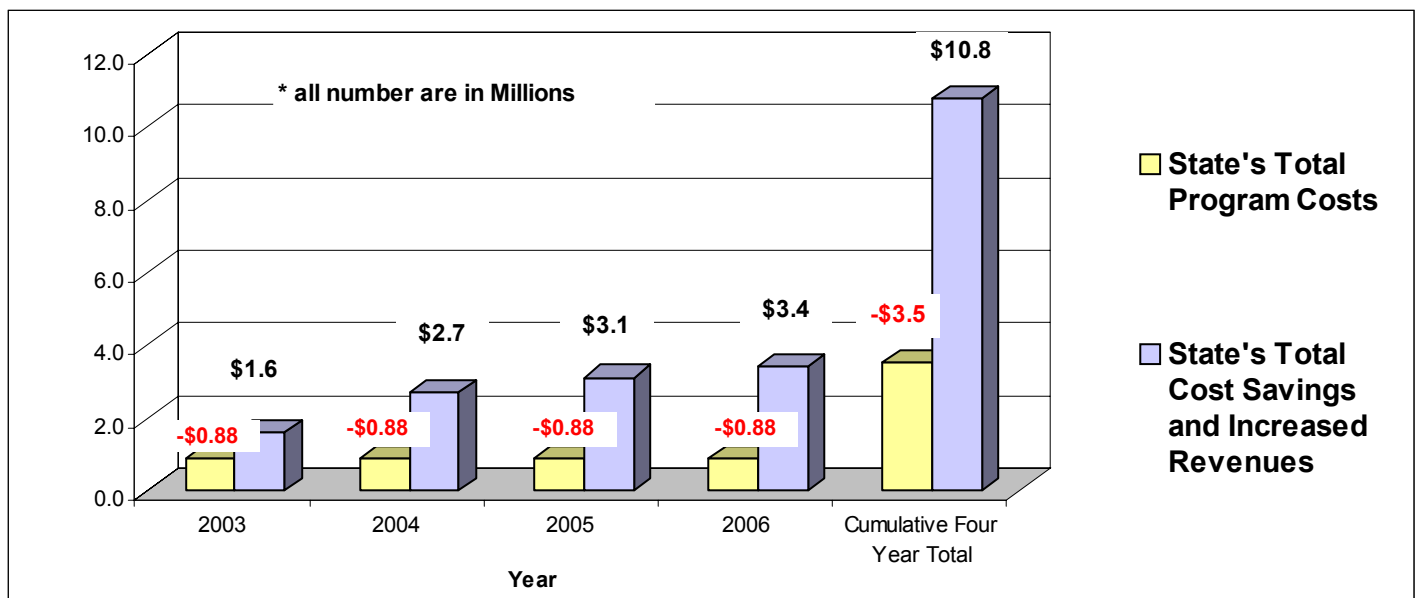
Table 6
Total Net Benefits to the State Attributable to the Minnesota Youthbuild Program
 (in thousands of dollars)

	Year 2003 (First Year)	Year 2004 (Second Year)	Year 2005 (Third Year)	Year 2006 (Fourth Year)	Cumulative Four Year Total
Cumulative Increase in State Tax Revenues (attributable to additional earnings of Youthbuild graduates)	\$352.6	\$705.2	\$1,057.8	\$1,410.4	\$3,526
Cumulative State Prison Cost Savings (attributable to lower recidivism of Youthbuild participants)	\$1,215.3	\$2,025.5	\$2,025.5	\$2,025.5	\$7,292
Total Benefits for the State of Minnesota	\$1,568	\$2,731	\$3,083	\$3,436	\$10,818
Total Cost to the State for Youthbuild Program (Operations and Administration)	(\$877)	(\$877)	(\$877)	(\$877)	(\$3,508)
Total Net Benefits to the State (difference between total costs and total benefits to the state)	\$691	\$1,854	\$2,206	\$2,559	\$7,310

VII. Summary

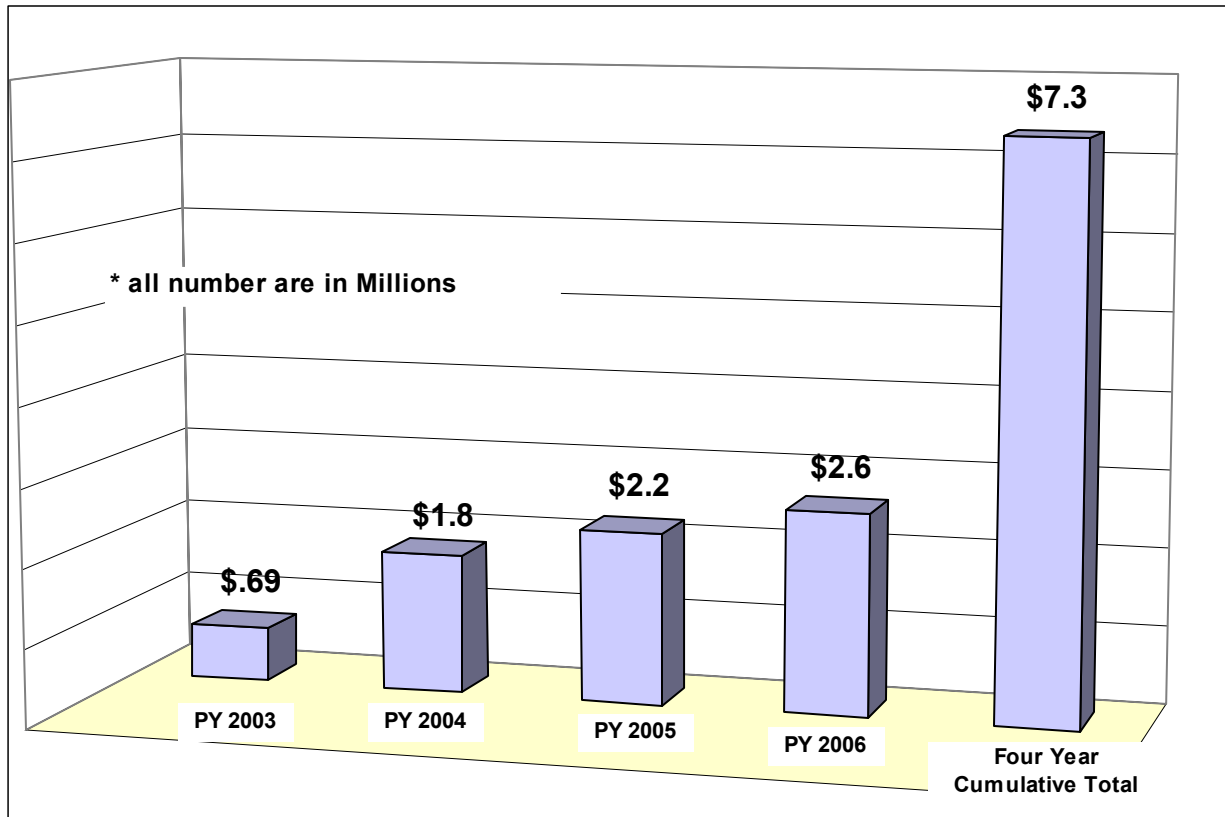
In summary, in estimating the costs and benefits attributable to Minnesota Youthbuild program training of at-risk youth and juvenile offenders (after subtracting out costs and benefits attributable to comparison groups in the absence of training), this analysis suggests that benefits and cost savings generated from the Minnesota Youthbuild program outweigh the state’s cost of the program (see Figure 6 below).

Figure 6
Comparison of State Costs and Benefits of the Minnesota Youthbuild Program



Moreover, the state’s investment in Youthbuild participants appears to pay off the first year immediately following participants’ graduating from the program. The evidence suggests net cost savings to the state is approximately \$700,000 in the first year, \$1.8 million in the second year, \$2.2 million in third year, and \$2.6 million in the fourth year. Over a four year period, this total cumulative pay off exceeds \$7 million. These results are summarized in Figure 7 (below):

Figure 7
State’s Total Net Benefits Attributable to the Minnesota Youthbuild Program



Appendix A

Data and weighted averages taken from D-1 and D-2: Fourth and Fifth Population Deciles and Second Population Deciles (2001 Minnesota Tax Incidence Study):

Table A-1
Average Tax Burden Amounts by Population Decile:
Singles and Married Couples without Children (except retired)

Column 1	Column 2	Column 3	Column 4	Column 5
Table D-1 (from 2001 MN Tax Incidence Study)	Population Decile Two (N= 129,774)	Population Decile Four (N= 131,639)	Population Decile Five (N= 123,384)	Weighted Average between Population Decile Four and Five*
Average Household Income per annum	\$10,482	\$21,584	\$28,185	\$24,778
State income tax	\$112	\$744	\$1,155	\$942.85
State sales tax	\$293	\$531	\$600	\$564.38
State excise tax	\$148	\$205	\$194	\$199.68
Total Annual State Tax Burden per Household	\$553	\$1,480	\$1,949	\$1,706.91

Table A-2
Average Tax Burden Amounts by Population Decile:
Single Parents and Married Couples with Children (except retired)

Column 1	Column 2	Column 3	Column 4	Column 5
Table D-2 (from 2001 MN Tax Incidence Study)	Population Decile Two (N=42,341)	Population Decile Four (N=50,201)	Population Decile Five (N=55,085)	Weighted Average between Population Decile Four and Five*
Average Household Income per annum	\$10,655	\$21,481	\$28,403	\$25,102
State income tax	-\$474	-\$258	\$387	\$79.43
State sales tax	\$411	\$667	\$758	\$714.61
State excise tax	\$166	\$228	\$246	\$237.42
Total Annual State Tax Burden per Household	\$103	\$637	\$1,391	\$1,031.46

* Weighted averages for Youthbuild graduate tax burdens (Column 5) were calculated by:

- (1) multiplying the tax burden in population decile four (PD 4) with the total number of individuals in decile 4
- (2) multiplying the tax burden in population decile five (PD 5) with the total number of individuals in decile 5
- (3) dividing the sum of the products in steps (1) and (2) by the sum total of the number of individuals in deciles 4 and 5.

Table A-3
 Weighted Average Tax Burden for Youthbuild Graduates:
 Singles and Married Couples without Children (except retired) and
 Single Parents and Married Couples with Children (except retired)

Column 1	Column 2	Column 3	Column 4
Derived from Table A-1 and A-2	<u>without dependents</u> (N=254)	<u>with dependents</u> (N=64)	Weighted Average of Numbers in fifth column of Tables A-1 and A-2 *
Average Household Income per annum	\$24,778	\$25,102	\$24,843
State income tax	\$942.85	\$79.43	\$770.16
State sales tax	\$564.38	\$714.61	\$594.43
State excise tax	\$199.68	\$237.42	\$207.23
Total Annual State Tax Burden per Household	\$1,706.91	\$1,031.46	\$1,571.82

Table A-4
 Weighted Average Tax Burden for Population Decile 2:
 Singles and Married Couples without Children (except retired) and
 Single Parents and Married Couples with Children (except retired)

Column 1	Column 2	Column 3	Column 4
Derived from Table A-1 and A-2	<u>without dependents</u> (N=129,774)	<u>with dependents</u> (N=42,341)	Weighted Average of Population Decile 2 Numbers in second column of Tables A-1 and A-2 *
Average Household Income per annum	\$10,482	\$10,655	\$10,517
State income tax	\$112	-\$474	-\$5.20
State sales tax	\$293	\$411	\$316.60
State excise tax	\$148	\$166	\$151.60
Total Annual State Tax Burden per Household	\$553	\$103	\$463

* Weighted averages for tax burdens in Column 4 were calculated by:

- (1) multiplying the tax burden in Column 2 with the total number of individuals in Column 2
- (2) multiplying the tax burden in Column 3 with the total number of individuals in Column 3
- (3) dividing the sum of the products in steps (1) and (2) by the sum total of the number of individuals in Columns 2 and 3.

Methodology and Calculations for Tables 1, 4, and 5

Calculation for Tax Revenues (Table 1)

State Tax Revenues generated per Youthbuild graduate = \$1,571.82 minus \$463 = \$1,108.82
(subtracting out revenues generated by untrained comparison group)

\$1,108.82 in increased revenues per graduate times 318 total employed Youthbuild graduates = \$352,604.76
 \$352,604.76 times 2 years = \$705,209.52
 \$352,604.76 times 3 years = \$1,057,814.28
 \$352,604.76 times 4 years = \$1,410,419.04

Calculation of Annual State Prison Costs for selected groups

\$86.26 per inmate, per day (per diem) cost (July, 2001, MN DOC Annual Report)

\$86.26 times 365 days per year = \$31,485

263 individuals times .52 return rate = 136.8 times \$31,485 annual prison cost = \$4,305,865.49 per year

263 individuals times .40 return rate = 105.2 times \$31,485 annual prison cost = \$3,312,204.22 per year

263 individuals times .20 return rate = 52.6 times \$31,485 annual prison cost = \$1,656,102.11 per year

263 individuals times .52 return rate = 14 times \$31,485 annual prison cost = \$440,787.63 per year

Calculation of State Prison Costs of Average 20 Month Stay for selected groups (Table 4)

\$31,485 annual prison cost divided by 12 months = \$2,623.74 per month per inmate prison cost

136.8 individuals times \$2,623.74 per month prison cost times 20 months = \$7,176,442.48 per year

105.2 individuals times \$2,623.74 per month prison cost times 20 months = \$5,520,340.37 per year

52.6 individuals times \$2,623.74 per month prison cost times 20 months = \$2,760,170.18 per year

14 individuals times \$2,623.74 per month prison cost times 20 months = \$734,646.06 per year

Calculation of State Prison Costs of Average 20 Month Stay for Youthbuild and Comparison Groups (Table 5)

Prison cost of first 12 months incarceration of comparison group of untrained youth (N= 263, return rate=20%)

minus Prison cost of first 12 months of Youthbuild participants (N= 263, return rate= 5%)

= \$1,656,102.11 minus \$440,787.63 = \$1,215,314.48

\$2,623.74 per month per inmate prison cost times 8 months = \$20,989.92

Prison cost of 8 months incarceration of comparison group of untrained youth (N= 263, return rate=20%) minus

Prison cost of 8 months of Youthbuild participants (N= 263, return rate= 5%)

\$20,989.92 times 52.6 = \$1,104,069.79

\$20,989.92 times 14 = \$293,858.88

\$1,104,069.79 minus \$293,858.88 = \$810,210.91

\$1,215,314.48 + \$810,210.91 = \$2,025,525.39 state's cost savings per average 20 month prison stay

Appendix B

Definition of Net Benefits

For purposes of this analysis, net benefits are defined as the total state tax revenues and state prison cost savings generated by increased earnings and reduced criminal behavior of Youthbuild program participants- after subtracting out revenues and cost savings generated by comparison groups that may accrue in the absence of the training and adding in state's cost to operate and administer the program. Net benefits, thereby, estimate the positive impact on the state attributable solely to the program.

Definition of Cohort

For purposes of this analysis, a participant cohort is defined as each new group of participants enrolled for an average of twelve months in the program. Each program cycle (each new year) generates a new participant cohort. The 398 Youthbuild participants from the PY (program year) 2002 participant cohort were enrolled in the program during the period July 1, 2001 to June 30, 2002. They graduated or exited the program on or by June 30, 2002.

With each new group of Youthbuild participants that are trained in the program each year, a unique set of benefits is generated in the years immediately following the group exiting the program. Each participant cohort generates benefits to the state in each of the years immediately following program participation (in terms of state tax revenues and prison cost savings). These benefits overlap among the participant cohorts in the four year period studied for this analysis. Thus, the total net benefits to the state over a four year period (2002-2006) is defined as the sum of net benefits attributable to each participant cohort that accrue each year over the four year period (after subtracting out revenues and cost savings generated by comparison groups that may accrue in the absence of training and adding in state's cost to operate and administer the program).

Minnesota Youthbuild Program Data Collection Methods

Minnesota Youthbuild program performance data was collected and analyzed for each participant upon exiting the program and at 6 month, 12 month and 24 month follow up intervals. Participant performance data included rates of unsubsidized employment, hourly wage of employment, job title, and enrollment in post-secondary institutions. Re-arrest, re-conviction, and return rates to prison (recidivism rates) of participants with one or more offenses prior to enrollment were collected at 6 month, 12 month, and 18 month intervals following enrollment in the program. Twenty-four month recidivism rates for PY 2002 Youthbuild participants were based in part on previous Youthbuild participant cohort recidivism rates collected during the past five years. These two year recidivism rates have remained fairly stable, at approximately 5%, since 1997. A statistical analysis of raw data collected on each Youthbuild participant enrolled in the Minnesota Youthbuild program in PY 2002 was used as a basis for the calculations of cost savings to the state. The PY 2002 participant data was compared to employment, earnings, and recidivism rates for comparison groups of untrained at-risk youth and young adults and juvenile and adult offenders found in the research literature noted the text of the study.

Limits to the Scope of the Study

This analysis limits its examination to the effect of increased earnings, state tax revenues, and reduced state prison return rates of Minnesota Youthbuild program participants as compared to similar comparison groups of untrained at-risk youth and young adults and juvenile and adult offenders

Certain effects that are correlated with the Minnesota Youthbuild program were not included into this analysis. Benefits that were not calculated were: the savings to the state due to participants being off welfare (or not entering into it) and other human service cost savings to the state due to a possible reduction in teen pregnancy, group home services and foster care, and state sponsored medical care. The benefits of increased economic activity due to increased earnings were not included in this analysis. Unquantifiable benefits of increased self-esteem, and the development of responsible work habits,

citizenship skills, interpersonal and parenting skills were not examined.

The effects of increased federal income tax revenue and the reduction of federal welfare costs and federal and local criminal justice costs, also were not included. Finally, the possibility of cost savings due to less police time spent on investigating crimes committed by youth participants and the savings due to less stolen or damaged property, were not included. The omission of these possible benefits may have the effect of understating the full society benefits of the program as examined.

Affordable Housing as an Unmeasured Benefit

The product of the Minnesota Youthbuild program, affordable housing for low-income families and individuals, also adds benefits to the state. The Minnesota Youthbuild program serves young people by engaging them in hands-on-training in the construction field while they work towards a high school diploma or a Graduate Record Exam (GED). The activities of Youthbuild participants demonstrate a collateral effect on communities throughout Minnesota. These collateral outcomes provide an additional benefit to the State of Minnesota by addressing the need for low-income housing and rental units. These costs have not been included in the current analysis but may be considered as additional benefits of the program. In the year 2002, program participants constructed or renovated 150 units of low-income housing. A total of 401 low-income homeowners or tenants were impacted by Youthbuild activities and 195 homeless persons were housed because of the work that Youthbuild participants performed.