

# Return on Investment Study: YouthBuild AmeriCorps

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August 30, 2021

This report was commissioned by AmeriCorps' Office of Research and Evaluation under Contract # GS00Q14OADU209 and Order # 95332A20R0013. Information in this report is in the public domain. Please, direct communications related to this report to Lily Zandniapour at [lzandniapour@cns.gov](mailto:lzandniapour@cns.gov) and Sarah Yue at [syue@cns.gov](mailto:syue@cns.gov). Cite this report as follows: Naugler, A., Kulka, L., Miller, B., Modicamore, D., Munaretto, C., Pershing, J., & Sarwana, M. (2021). *Return on Investment Study: YouthBuild*



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## Executive Summary

### YouthBuild AmeriCorps

AmeriCorps contracted with ICF Incorporated, LLC (hereafter ICF) to explore and quantify the return on investment (ROI) of several programs that rely on AmeriCorps national service as a major resource to sustain operations. ROI analyses have the potential to help AmeriCorps measure the performance of programs and build the base of evidence for future resource allocation decisions. In addition, ROI study results will help AmeriCorps communicate the value of its programming to relevant stakeholders.

This ROI study measures the benefits of the YouthBuild AmeriCorps program against costs. YouthBuild USA (YouthBuild) is a national youth leadership program designed to improve education and employment outcomes for youth aged 16 to 24 who are neither in school nor employed (referred to as opportunity youth).

The goal of the program is to help these youth attain high school diplomas or equivalency credentials, obtain occupational skills and experience, develop leadership skills, and deepen their commitment to service in their communities. YouthBuild serves over 8,000 individuals each year through 233 local programs across 46 U.S. states. It primarily provides hands-on vocational training in construction skills related to building and rehabilitating affordable housing in low-income neighborhoods. It recently expanded its service stream to include skill development in other in-demand industries such as health care, computer technology, and environmental services.

#### Key Results

This study estimates YouthBuild AmeriCorps's ROI to be between -\$0.40 and \$9.58 per funder dollar, depending on how long YouthBuild AmeriCorps participants experience increased earnings from serving and participating in YouthBuild AmeriCorps. The return on each dollar of federal support for the program is between -\$0.72 and \$17.97. These results are driven by favorable employment and education outcomes for YouthBuild AmeriCorps participants in the years following their service.

#### Population Served

For the September 2019 to August 2020 program year, all YouthBuild AmeriCorps participants were between the ages of 16 and 24, 44 percent identified as Black or African American and 31 percent identified as Hispanic, 61 percent were male, and 86 percent indicated they were economically disadvantaged. Additionally, 85 percent had less than a high school education prior to program entry. YouthBuild AmeriCorps members serve low-income urban and rural communities nationwide. These are economically-distressed areas with high rates of poverty (e.g., the average poverty rate of sites in 2018 was 27.1 percent) and median annual household incomes significantly below the national-level.

YouthBuild has received AmeriCorps funding since 1994 and—for a subset of YouthBuild programs—program participants are, themselves, AmeriCorps members.<sup>1</sup> YouthBuild AmeriCorps programs enroll over 2,500 opportunity youth as AmeriCorps State and National members annually across 65 U.S.-based programs. They directly participate in the YouthBuild program and, as AmeriCorps members, earn education awards upon program completion.<sup>2</sup> In this way, these AmeriCorps State and National members are both service providers and program participants. They provide services such as building affordable housing and community assets. They also benefit as program participants from YouthBuild's support toward attaining high school diplomas or high school equivalence (HSE) credentials, gaining job skills in high-demand employment sectors, and developing leadership skills. YouthBuild also engages AmeriCorps VISTA members and AmeriCorps State and National members who do not directly participate in the YouthBuild program. Due to data availability, the focus of this ROI analysis is on the benefits derived from and the program costs associated with AmeriCorps State and National members who are also YouthBuild program participants. These individuals (hereafter YouthBuild AmeriCorps participants) are YouthBuild AmeriCorps members themselves and they also receive YouthBuild program services and supports directly.

#### **YouthBuild AmeriCorps Impacts: Selected Evaluation Results**

Below are findings from YouthBuild AmeriCorps's 2019 evaluation (The Center for Youth and Communities, 2019) on the program's performance and impact:

- 72.5 percent of YouthBuild AmeriCorps participants who completed the YouthBuild AmeriCorps program were placed in a job post-service.
- Of YouthBuild AmeriCorps participants that did not have a high school diploma or equivalency pre-service and who completed the YouthBuild AmeriCorps program, 67.8 percent obtained one post-service.
- 12.8 percent of YouthBuild AmeriCorps participants who completed the YouthBuild AmeriCorps program enrolled in post-secondary education post-service.
- 59.9 percent of YouthBuild AmeriCorps program participants completed the program and earned an education award post-service.

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<sup>1</sup> YouthBuild. (2020, October 28). The YouthBuild AmeriCorps Partnership. Retrieved from <https://youthbuild.org/our-approach/youthbuild-usa/ameri-corps/>

<sup>2</sup> AmeriCorps State and National members are eligible for a Segal AmeriCorps Education Award upon successful completion of their service term that can be used to pay current educational expenses or to repay qualified student loans. For more information about this AmeriCorps education award, please see <https://americorps.gov/members-volunteers/segal-ameri-corps-education-award>.

## Return on Investment Study Methods

The methodology for the YouthBuild AmeriCorps ROI study consists of the following components:

- 1. Measuring and monetizing program benefits.** This included using data from a previous evaluation and other third-party sources to determine the benefits of the YouthBuild AmeriCorps program. Benefits are realized across two stakeholder groups: YouthBuild AmeriCorps participants and government. Specifically, these benefits include increased earnings for YouthBuild AmeriCorps participants due to both increased employment and use of education awards post-service to pursue post-secondary education. Government benefits include tax revenue generation from increased economic activity and earnings, tax revenue from YouthBuild AmeriCorps members' education awards, and reduced spending on corrections, public assistance, and social insurance. This analysis monetized program benefits using various proxies and summed those amounts to quantify the impact of the YouthBuild AmeriCorps program in 2020 dollars.
- 2. Estimating forgone benefits (opportunity costs).** This ROI analysis estimated two types of forgone benefits. The first was the professional opportunity cost to YouthBuild AmeriCorps members for their period of national service, during which they could have earned more pay by doing other work. This included both the forgone earnings of YouthBuild AmeriCorps members and the associated tax revenue for government. The second was the investment opportunity cost for YouthBuild AmeriCorps program funding that could have been used for other purposes. The analysis estimated the investment opportunity cost for both government and private funders based on the forgone return of investing program funds into U.S. Treasury bonds. The rates of return for U.S. Treasury bonds provide a market-based estimate of return for low-risk investments. For the ROI estimates, the analysis subtracted forgone benefits from program benefits to calculate net benefits. The net benefits were then compared to program costs.
- 3. Assessing program costs.** YouthBuild provided YouthBuild AmeriCorps program costs for the September 2019 to August 2020 program year. Only the program costs that support YouthBuild AmeriCorps State and National members who directly participate in the YouthBuild AmeriCorps program are included in this ROI analysis. They exclude funds for YouthBuild AmeriCorps VISTA members who assist with capacity building and YouthBuild AmeriCorps State and National members who do not participate in the YouthBuild program since benefits for those members are not included in the ROI. These program costs included the AmeriCorps State and National grant, the education awards received by YouthBuild AmeriCorps participants after program and service completion, and match funds from private as well as local, state, and other federal government stakeholders.

- 4. Calculating the ROI.** The ROI analysis consists of three ROI calculations: 1) *total benefits per federal dollar*, 2) *total benefits per funder dollar*, and 3) *federal government benefits per federal dollar*. This analysis calculated the value of these three ROI calculations under three scenarios representing different assumptions about the persistence of program outcomes. As mentioned above, the benefits used to calculate the ROI are the *net benefits* associated with the program (the program benefits minus the forgone benefits).

This analytical framework included only those benefits that could be reasonably monetized given the available data, and that likely would not have occurred without the YouthBuild AmeriCorps program. Figure ES 1 shows how YouthBuild AmeriCorps program activities result in YouthBuild AmeriCorps participant and government benefits.

**Figure ES 1. Benefits among YouthBuild AmeriCorps Participants and Government Derived from YouthBuild AmeriCorps**

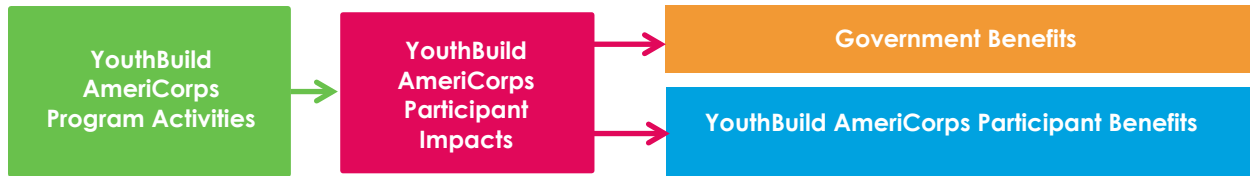


Table ES 1 shows the benefits, forgone benefits (opportunity costs), and costs that are included in each of the three types of ROI calculations.



**Table ES 1. Program Benefits, Forgone Benefits, and Costs Included in the ROI Calculations**

ROI Calculation	Program Benefits	Forgone Benefits	Costs
Total Benefits per Federal Dollar	<ul style="list-style-type: none"> <li>All YouthBuild AmeriCorps participant and government benefits derived from the program</li> </ul>	<ul style="list-style-type: none"> <li>Forgone Benefits from total professional opportunity cost</li> <li>Forgone Benefits from federal investment opportunity cost</li> </ul>	<ul style="list-style-type: none"> <li>AmeriCorps federal funding</li> <li>Match federal funding</li> </ul>
Total Benefits per Funder Dollar	<ul style="list-style-type: none"> <li>All YouthBuild AmeriCorps participant and government benefits derived from the program</li> </ul>	<ul style="list-style-type: none"> <li>Forgone Benefits from total professional opportunity cost</li> <li>Forgone Benefits from total investment opportunity cost</li> </ul>	<ul style="list-style-type: none"> <li>AmeriCorps federal funding</li> <li>All match funding</li> </ul>
Federal Government Benefits per Federal Dollar	<ul style="list-style-type: none"> <li>Additional federal government tax revenue generation and reduced spending attributable to the program</li> </ul>	<ul style="list-style-type: none"> <li>Forgone Benefits from Federal professional opportunity cost</li> <li>Forgone Benefits from Federal investment opportunity cost</li> </ul>	<ul style="list-style-type: none"> <li>AmeriCorps federal funding</li> <li>Match federal funding</li> </ul>

Available data established that YouthBuild AmeriCorps participants enjoy earnings impacts as a result of serving with and participating in the YouthBuild AmeriCorps program. However, the data do not establish the duration of those benefits. To address a range of possible durations for those benefits as well as lifetime benefits, the analysis includes three scenarios:<sup>3</sup>

- **Short-term.** This scenario assumes short-term earnings impacts. The assumption is that earnings impacts are limited to a single year after program exit. This scenario also assumes no lifetime benefits are realized.
- **Medium-term.** This scenario assumes a longer duration of earnings impacts. The assumption is that earnings impacts last 15 years. A 3 percent discount rate is applied each year to represent net present value in 2020 dollars.<sup>4</sup> This scenario also assumes only half of the net present value of lifetime benefits is realized.
- **Long-term.** This scenario assumes sustained earnings impacts throughout YouthBuild AmeriCorps participants' working years. The assumption is that earnings impacts last 30 years. A 3 percent discount rate is applied each year to represent net present value in 2020 dollars. This scenario also assumes the entire net present value of lifetime benefits is realized.

The long-term scenario (i.e., 30 years of sustained employment and earnings benefits) represents roughly a lifetime of working years for a given person while the short-term scenario assumes benefits for only the year after program participation or service. The medium-term scenario (i.e., 15 years of sustained employment and earnings benefits) represents the midpoint between these two scenarios.

## Program Benefits, Forgone Benefits (Opportunity Cost), and Program Costs

Table ES 2 shows the estimates of monetized benefits of the YouthBuild AmeriCorps program by stakeholder group for each of the three scenarios and the percentage of the total benefits that each represent. The proportion of benefits going to YouthBuild AmeriCorps participants (699 program completers), the federal government, and state/local governments were relatively stable across scenarios. In all three scenarios, YouthBuild AmeriCorps participants realized two-thirds or more of program benefits.

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<sup>3</sup> These three scenarios consider varying durations of how long increased employment and earnings benefits last for YouthBuild AmeriCorps participants. They also consider varying durations for lifetime benefits that stem from the YouthBuild AmeriCorps program. For example, lifetime benefits in terms of decreased public assistance, social insurance, and corrections costs result from YouthBuild AmeriCorps participants' higher educational attainment post-service. The analysis estimates lifetime benefits differently in the three scenarios. Specifically, the net present value of the entire lifetime benefit is realized for the long-term scenario, half of the net present value of the lifetime benefit is realized for the medium-term scenario, and no lifetime benefit amount is realized for the short-term scenario.

<sup>4</sup> The Office of Management and Budget (1992) defines a discount rate as, "The interest rate used in calculating the present value of expected yearly benefits and costs" (p. 18). Regarding the 3 percent discount rate, see Office of Management and Budget (2003).

**Table ES 2. Program Benefits by Recipient**

Recipient	Benefits by Scenario (2020\$)		
	Short Term	Medium Term	Long Term
YouthBuild AmeriCorps Participants (percent of total benefits)	\$3,114,306 (75%)	\$82,912,429 (68%)	\$138,597,854 (66%)
Federal Government (percent of total benefits)	\$782,437 (19%)	\$23,992,231 (20%)	\$43,466,256 (21%)
State/Local Governments (percent of total benefits)	\$263,148 (6%)	\$15,062,301 (12%)	\$28,274,057 (13%)
<b>Total Program Benefits (total percent)</b>	<b>\$4,159,891 (100%)</b>	<b>\$121,966,961 (100%)</b>	<b>\$210,338,167 (100%)</b>

Table ES 3 shows the breakdown of forgone benefits of both YouthBuild AmeriCorps participants and funders. These forgone benefits are subtracted from the program benefits (shown above) to calculate the net benefits of the program. Those net benefits are then compared to program cost to calculate the ROI. These forgone benefits are referred to as the professional and investment opportunity costs.

The professional opportunity cost includes the post-tax earnings YouthBuild AmeriCorps members forgo—and the associated taxes forgone—due to their service with the YouthBuild instead of other work. This opportunity cost is consistent across all three scenarios.

The investment opportunity cost represents the forgone accrued interest from investing YouthBuild AmeriCorps program funding into U.S. Treasury bonds instead of into the YouthBuild AmeriCorps program. The forgone accrued interest calculated varies by scenario because the analysis matched real interest rates for different maturity levels to the three scenarios. The period of forgone interest accrual was set to the length of each scenario.

**Table ES 3. Forgone Benefits (Opportunity Cost) by Scenario**

Forgone Benefits (Opportunity Cost)	ROI Scenario (2020\$)		
	Short term	Medium term	Long term
<b>Professional Opportunity Cost</b>	<b>\$11,757,989</b>	<b>\$11,757,989</b>	<b>\$11,757,989</b>
Forgone Earnings of YouthBuild AmeriCorps Participants	\$9,742,868	\$9,742,868	\$9,742,868
Forgone Taxes from Forgone Earnings	\$2,015,121	\$2,015,121	\$2,015,121
<b>Investment Opportunity Cost</b>	<b>\$255,269</b>	<b>\$4,736,355</b>	<b>\$11,071,781</b>
Forgone Benefits from Federal Government Investment/returns	\$139,711	\$2,592,242	\$6,059,668
Forgone benefits from state/local government and private funder investment/return	\$115,558	\$2,144,113	\$5,012,113

Table ES 4 shows the program cost of YouthBuild AmeriCorps by funding source for the September 2019 to August 2020 program year (excluding opportunity costs which are estimated separately). The total cost of the program—which only includes funding that supported the position and activities of YouthBuild AmeriCorps participants—was almost \$19.6 million. About 55 percent of program costs (\$10.7 million) were funded by federal government sources, while the remaining 45 percent (\$8.9 million) consisted of match funding provided by private funders as well as state and local governments.

**Table ES 4. Program Cost by Funding Source**

Funding Source	Amount (\$)	Percent of Total (%)
AmeriCorps State & National Grant	\$8,068,367	41.2%
Expected Education Awards	\$2,576,958	13.2%
Match Federal Funding	\$66,839	0.3%
<b>Total Federal Government Funding</b>	<b>\$10,712,164</b>	<b>54.7%</b>
Match State & Local Government Funding	\$4,661,442	23.8%
Match Private Funding	\$4,198,874	21.5%
<b>Total Non-Federal Government Funding</b>	<b>\$8,860,316</b>	<b>45.3%</b>
<b>Grand Total</b>	<b>\$19,572,480</b>	<b>100.0%</b>

## ROI Results

This analysis developed ROI estimates using the three scenarios (short-term, medium-term, and long-term). As noted above, the ROI calculations compared the net benefits of the YouthBuild AmeriCorps program with program costs to calculate the ROI. Table ES 5 shows the gross program benefits, forgone benefits, net benefits, and program costs of the YouthBuild AmeriCorps program, along with the results of the three ROI calculations.

**Table ES 5. Benefits and Costs by ROI Scenario**

Benefits and Costs	ROI Scenario (2020\$)		
	Short term	Medium term	Long term
<b>Total Gross Program Benefits</b>	<b>\$4,159,891</b>	<b>\$121,966,961</b>	<b>\$210,338,167</b>
Member Benefits	\$3,114,306	\$82,912,429	\$138,597,854
Federal Government Benefits	\$782,437	\$23,992,231	\$43,466,256
State/Local Government/Other Funder Benefits	\$263,148	\$15,062,301	\$28,274,057
<b>Total Forgone Benefits (Opportunity Costs)</b>	<b>\$12,013,258</b>	<b>\$16,494,344</b>	<b>\$22,829,770</b>
Forgone Benefits to Members (Forgone Earnings Post-Taxes)	\$9,742,868	\$9,742,868	\$9,742,868
Forgone Tax Revenue from Member Earnings	\$2,015,121	\$2,015,121	\$2,015,121

Benefits and Costs	ROI Scenario (2020\$)		
	Short term	Medium term	Long term
Forgone Tax Revenue to Federal Government	\$1,316,994	\$1,316,994	\$1,316,994
Forgone Tax Revenue to State/Local Government	\$698,128	\$698,128	\$698,128
Forgone Benefits from Funding Provided (All Funders)	\$255,269	\$4,736,355	\$11,071,781
Forgone Investment Benefits to Federal Government from Funding Provided	\$139,711	\$2,592,242	\$6,059,668
Forgone Investment Benefits to State/Local Government and Other Funders from Funding Provided	\$115,558	\$2,144,113	\$5,012,113
<b>Total Program Net Benefits (Total Program Gross Benefits – Total Forgone Benefits)</b>	<b>-\$7,853,367</b>	<b>\$105,472,617</b>	<b>\$187,508,397</b>
Net Benefits to Members (Member Benefits – Forgone Benefits to Members)	-\$6,628,562	\$73,169,561	\$128,854,986
Net Benefits to Federal Government (Federal Government Benefits – Forgone Tax Revenue to Federal Government – Forgone Investment Benefits to Federal Government from Funding Provided)	-\$674,268	\$20,082,995	\$36,089,594
Net Benefits State/Local Government and other funders (State/Local Government Benefits – Forgone Tax Revenue to State/Local Government – Forgone Investment Benefits to State/Local Government and Other Funders from Funding Provided)	-\$550,538	\$12,220,060	\$22,563,816
<b>Total Program Costs</b>	<b>\$19,572,480</b>	<b>\$19,572,480</b>	<b>\$19,572,480</b>
Federal Government Cost	\$10,712,164	\$10,712,164	\$10,712,164
Non-Federal Government Costs	\$8,860,316	\$8,860,316	\$8,860,316
<b>ROI for Total Benefits per Federal Dollar</b> (Total Program Net Benefits / Federal Government Costs)	<b>-\$0.72</b>	<b>\$10.05</b>	<b>\$17.97</b>
<b>ROI for Total Benefits per Funder Dollar</b> (Total Program Net Benefits / Total Program Costs)	<b>-\$0.40</b>	<b>\$5.39</b>	<b>\$9.58</b>
<b>Federal Government Benefits per Federal Dollar</b> (Net Benefits Federal Government / Federal Government Costs)	<b>-\$0.06</b>	<b>\$1.87</b>	<b>\$3.37</b>

Table ES 6 shows the ROI results for the YouthBuild AmeriCorps program. The results are expressed as cost–benefit ratios, while maintaining the ROI terminology. Specifically, these ratios take the form of the sum of monetized benefits over the sum of applicable program costs. The ROIs expressed as cost–benefit ratios in this study can be interpreted as the amount of dollars returned for every \$1 of investment (or program cost).<sup>5</sup>

**Table ES 6. ROI Results for YouthBuild AmeriCorps**

ROI Calculation	ROI Scenario		
	Short term	Medium term	Long term
Total Benefits per Federal Dollar	-\$0.72	\$10.05	\$17.97
Total Benefits per Funder Dollar	-\$0.40	\$5.39	\$9.58
Federal Government Benefits per Federal Dollar	-\$0.06	\$1.87	\$3.37

The YouthBuild AmeriCorps program produces strong returns for the medium- and long-term scenarios, particularly when benefits to YouthBuild AmeriCorps participants and state/local governments are included. This is indicated by the results of the *total benefits per federal dollar* and the *total benefits per funder dollar* ROI calculations for these two scenarios.

In the short-term scenario—where benefits for only one year post-program are included—the ROI results are negative, indicating that costs outweigh the benefits in the first year after the first year after the program. A negative ROI in the first year post-program is common in programs where there is an initial one-time investment made and benefits accrue in the following years. This is because it often requires several years of benefits to recoup the initial investment and generate positive returns, as indicated in the results for the medium- and long-term scenarios. During the program, AmeriCorps members gain the experience, skills, and knowledge that result in future benefits, such as improved employment and wages, which can be sustained throughout their working years. In the short-term scenario specifically, for every \$1 invested by the federal government, the initial \$1 investment plus an additional \$0.72 are lost. When considering the program costs of all funders, for every \$1 invested, the initial \$1 investment plus an additional \$0.40 are lost. Moreover, for every \$1 the federal government invests, the federal government alone loses that initial \$1 investment as well as an additional \$0.06.

In the medium-term scenario, YouthBuild AmeriCorps participants and government realize a combined return of \$10.05 for every \$1 of federal government investment. Moreover, for every \$1 of total investment in the YouthBuild AmeriCorps program from all funders, \$5.39 is return to both society and government combined.<sup>6</sup>

<sup>5</sup> ROIs can be expressed in percentages or as ratios, such as in this study. Although not shown as a ratio in the results, the ROIs in this study show the amount of return for every \$1 invested.

<sup>6</sup> The funder groups whose investment is included in this calculation are the federal government (i.e., AmeriCorps and other federal sources), state and local governments, and other non-government entities.

When considering only the federal government return for every \$1 of federal investment, the federal government realizes \$1.87 in return.

In the long-term scenario, the ROI for *total benefits per federal dollar*, *total benefits per funder dollar*, and *federal government benefits per federal dollar* are \$17.97, \$9.58, and \$3.37, respectively. Namely, for both the medium- and long-term scenarios, all the ROI calculations are positive where all funders realize a return on their investment in the YouthBuild AmeriCorps program.

The magnitude and direction of the ROI calculations are driven by several factors:

- **YouthBuild AmeriCorps participants' strong secondary education and employment outcomes.** For the most recent program, YouthBuild data indicated that 85 percent of YouthBuild AmeriCorps participants had less than a high school education prior to program entry. With regards to education outcomes, The Center for Youth and Communities (2019) reported that of YouthBuild AmeriCorps program completers that did not have a high school diploma or equivalency pre-service, 67.8 percent obtained one of these secondary credentials post-service. This ROI analysis estimated that due to participating and serving in the YouthBuild AmeriCorps program, an additional 441 YouthBuild AmeriCorps participants completed their secondary education. According to the U.S. Bureau of Labor Statistics (2020), gains in educational attainment—especially obtaining a high school diploma or equivalent—translate to decreased unemployment and higher earnings. The Center for Youth and Communities (2019) also reported 72.5 percent of YouthBuild AmeriCorps program completers were placed in a job post-service. Based on this finding, this ROI analysis estimated that an additional 320 YouthBuild AmeriCorps program completers became employed due to participating and serving in the YouthBuild AmeriCorps program. Therefore, the completion of secondary credentials through the YouthBuild AmeriCorps program plays a crucial part in driving YouthBuild AmeriCorps participants' employment gains. The completion of a high school diploma or equivalent not only leads to increased employment but also additional earnings. This analysis calculated that YouthBuild AmeriCorps participants who were unemployed pre-service but employed post-service experienced a \$26,000 increase in per-person pre-tax annual earnings, which stemmed from their improved employment.
- **Medium- and long-term accumulation of benefits.** In the short-term, the three ROI calculations are negative because only one year of post-program employment and earnings gains are factored in while the entire program cost is considered. Additionally, the short-term scenario does not include any lifetime benefits in terms of reduced spending on corrections, public assistance, and social insurance or increased tax revenue. As these benefits accumulate over time, the analysis shows positive returns. This is indicated by the ROI results in the medium- and long-term scenarios (15 and 30 years post-program, respectively).

Government funding serves as a catalyst for private funding of evidence-based social services programs. For the ROI calculations of 1) *total benefits per federal dollar* and 2) *total benefits per funder dollar*, AmeriCorps's requirement of match funding also contributed to the magnitude of outcomes. Federal government funding of the YouthBuild AmeriCorps program, specifically, serves as a catalyst for private and other government funding. This additional combined private and non-AmeriCorps federal government funding—amounting to \$8.9 million for YouthBuild AmeriCorps for the most recent program year—allowed the YouthBuild AmeriCorps program to enroll and serve more participants than otherwise would have been served under the federal funding alone. Though it may not impact the ROI, because it is a per unit metric, match funding leads to greater investment in the YouthBuild AmeriCorps program and thus to a greater impact as more individuals are served.

### **Federal Funding as a Catalyst for Other Funding**

AmeriCorps funding of the YouthBuild AmeriCorps program serves as a catalyst for private and other government funding. The additional private and non-AmeriCorps federal government funding—amounting to \$8.9 million allowed the YouthBuild AmeriCorps program to enroll and serve more participants resulting in a greater impact.



## Introduction

AmeriCorps contracted with ICF Incorporated, LLC (hereafter ICF) to explore and quantify the return on investment (ROI) of several programs that rely on national service—specifically AmeriCorps—as a major resource to sustain operations. ROI analyses measure the performance of programs and build the base of evidence for future resource allocation decisions. ROI study results demonstrate the value of AmeriCorps programming to relevant stakeholders.

This project, for Fiscal Year 2021, began with a comprehensive literature review and preliminary assessments of whether ROI analyses were feasible for five national service programs. These feasibility studies included thorough reviews of these programs' recent evaluations, detailed logic models, proposed ROI analysis methodologies for each program, and a scorecard mechanism that determined the viability of conducting an ROI analysis for each selected program.

Upon completion of five feasibility studies, AmeriCorps selected four programs to be the subject of ROI studies: Habitat for Humanity AmeriCorps, Washington Conservation Corps, YouthBuild AmeriCorps, and Birth & Beyond's Home Visitation Program. This ROI study measures the benefits of the YouthBuild AmeriCorps program against its costs based on the analytical approach and data sources specified in its respective feasibility study.

This study is organized into five sections:

- **Program Description** describes the program's design, activities, and objectives, along with the role that national service (specifically AmeriCorps) plays in its operation. The section also provides a brief history of past evaluations, outlines the factors that made this program a strong selection for an ROI study, underscores the population this program serves, and identifies a potential set of comparable ROI estimates for the YouthBuild AmeriCorps program.
- **ROI Methodology** outlines how this analysis used various data sources to monetize benefits derived from the YouthBuild AmeriCorps program, describes its associated program costs, and explains how opportunity costs were calculated.
- **Benefits, Forgone Benefits (opportunity costs), Program Costs, and ROI Results** provides a detailed description of the program benefits, forgone benefits (opportunity cost), and program costs that are inputs into the ROI analyses and presents the results of the three ROI calculations across different assumptions.
- **Recommendations for Further Research** explores ways AmeriCorps and others could further build the evidence base for this program and similar programs, including how to address limitations of this study.
- **Conclusion** summarizes key points from the ROI study overall.

## Program Description

YouthBuild USA (YouthBuild) is a national youth leadership program designed to improve education and employment outcomes for opportunity youth. Opportunity youth are economically disadvantaged youth aged 16 to 24 who are neither in school nor employed. The goal of the program is to help these youth attain high school diplomas or high school equivalency (HSE) credentials, obtain occupational skills and experience, develop leadership skills, and deepen their commitment to service and engagement in their communities. YouthBuild serves over 8,000 individuals each year through 233 local programs across 46 U.S. states. It primarily provides hands-on vocational training in construction related to building and rehabilitating affordable housing in low-income neighborhoods. YouthBuild recently expanded its service stream to include skill development in other in-demand industries such as health care, computer technology, hospitality, digital services, and environmental services. The program also offers case management services, counseling, and leadership development opportunities to program participants.

YouthBuild has received AmeriCorps funding since 1994 and—for a subset of YouthBuild programs—program participants are, themselves, AmeriCorps members.<sup>7</sup> YouthBuild AmeriCorps programs enroll over 2,500 opportunity youth as AmeriCorps State and National members annually across 65 U.S.-based programs. They directly participate in the YouthBuild program and, as AmeriCorps members, earn education awards upon program completion.<sup>8</sup> In this way, these AmeriCorps State and National members are both service providers and program participants. They provide services such as building affordable housing and community assets. They also benefit as program participants from YouthBuild's support toward attaining high school diplomas or HSE credentials, gaining job skills in high-demand employment sectors, and developing leadership skills.

YouthBuild also engages AmeriCorps VISTA members to support capacity building efforts. YouthBuild AmeriCorps VISTA members do not directly participate in the YouthBuild program. Their activities include grant proposal writing, data analysis, program development, and fostering partnerships with other organizations to strengthen YouthBuild AmeriCorps's program service offerings.<sup>9</sup> Additionally, YouthBuild engages AmeriCorps State and National members who *do not* participate in the YouthBuild program. These individuals still perform services in local communities—such as building affordable housing—and receive an education award post-service.

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<sup>7</sup> YouthBuild. (2020, October 28). The YouthBuild AmeriCorps Partnership. Retrieved from <https://youthbuild.org/our-approach/youthbuild-usa/ameri-corps/>

<sup>8</sup> AmeriCorps State and National members are eligible for a Segal AmeriCorps Education Award upon successful completion of their service term that can be used to pay current educational expenses or to repay qualified student loans. For more information about this AmeriCorps education award, please see <https://americorps.gov/members-volunteers/segal-ameri-corps-education-award>.

<sup>9</sup> YouthBuild. (2020, October 27). AmeriCorps VISTA. Retrieved from <https://youthbuild.org/our-approach/youthbuild-usa/ameri-corps-vista/>

Due to data availability, the focus of this ROI analysis is on the benefits derived from and the program costs associated with AmeriCorps State and National members who are also YouthBuild program participants. These individuals (hereafter YouthBuild AmeriCorps participants) are YouthBuild AmeriCorps members themselves and they also receive YouthBuild program services and supports directly. Any AmeriCorps members, costs, and benefits associated with the VISTA program are not included in this analysis.

## Population Served

Regarding the population served, the YouthBuild AmeriCorps program serves individuals who are program participants as well as low-income communities nationwide. For the September 2019 to August 2020 program year, there were 1,614 YouthBuild AmeriCorps participants who received YouthBuild program services. The demographic and socioeconomic characteristics of this population are listed in Table 1. Specifically, these YouthBuild AmeriCorps participants were all between the ages of 16 and 24, 44 percent identified as Black or African American and 31 percent identified as Hispanic, 61 percent were male, and 86 percent indicated they were economically disadvantaged. With regards to their level of education prior to program entry, 85 percent had less than a high school education while 15 percent completed their high school education.

**Table 1. Demographic and Socioeconomic Characteristics of YouthBuild AmeriCorps Participants for Most Recent Program Year**

Demographic / Socioeconomic Characteristic	Count	Percent (%)*
Number of YouthBuild AmeriCorps Participants	1,614	100%
<b>Age</b>		
16-20	1,272	79%
21-24	320	20%
Unknown	22	1%
<b>Gender</b>		
Female	626	39%
Male	977	61%
Other	11	1%
<b>Race/Ethnicity**</b>		
American Indian or Native Alaskan	36	2%
Asian or South Asian	91	6%
Black or African American	712	44%
Hispanic, Latinx, or Spanish origin	504	31%
Native Hawaiian or Other Pacific Islander	5	0%
Other race or origin	32	2%

Demographic / Socioeconomic Characteristic	Count	Percent (%)*
White	386	24%
<b>Education Level Pre-Program</b>		
Less than High School	1,372	85%
High School	242	15%
<b>Economically Disadvantaged</b>		
Yes	1,393	86%
No	221	14%
<b>Parent or Primary Caregiver</b>		
Parent	193	12%
Primary Caregiver	17	1%
Both	36	2%
Neither	1,367	85%
Unknown	1	0%
<b>Homeless</b>		
Currently	68	4%
In the Past Year	104	6%
Neither	1,279	79%
Unknown	163	10%
<b>Foster Care</b>		
Currently	46	3%
Aged Out or No Longer in Foster Care	76	5%
Never in Foster Care	1,215	75%
Unknown	277	17%

Source: YouthBuild

\*Numbers may not sum due to rounding.

\*\*The percentages for "Race/Ethnicity" sum up to over 100 percent because participants could have selected multiple response options.

YouthBuild AmeriCorps members also serve low-income urban and rural communities nationwide. These are economically-distressed areas with high rates of poverty and median annual household incomes significantly below that at the national-level. Specifically, in 2018, the YouthBuild AmeriCorps program served 47 urban and 23 rural communities. The average poverty rate of sites by zip-code was 27.1 percent, almost double the national average (i.e., 14.6 percent). The average median annual household income of these communities served for this year was \$40,186 which is 35 percent lower than the national median of \$61,372. These areas predominantly have increasing rates of homelessness, lower high school graduation rates, and lack

affordable housing options. Thus, YouthBuild AmeriCorps members serve neighborhoods with heightened housing instability and homelessness to help these populations emerge from poverty and experience improved well-being.

## YouthBuild AmeriCorps Evaluation History

An evaluation by the Center for Youth and Communities at Brandeis University (The Center for Youth and Communities, 2019) explored how the experience and outcomes of YouthBuild AmeriCorps participants differed across three types of YouthBuild AmeriCorps programs through a comparative assessment. The three YouthBuild AmeriCorps service delivery models examined were:

- Those providing HSE programs
- Those providing a high school diploma
- Those providing a combination of a high school diploma and HSE credentials

The outcomes evaluated included core program measures, such as high school diploma/HSE credential attainment and post-service job placement. In addition to looking at outcomes for each program type separately, the evaluation also analyzed outcomes across program types to provide results that are representative of YouthBuild AmeriCorps programs generally.

This study selected a representative sample of 40 YouthBuild AmeriCorps programs using a stratified random sampling process and data from the Data YouthBuild (DYB) reporting system. The sampling process considered several criteria: the type of credential offered by the program (HSE or diploma), the experience level of the program (newer/less experienced and older/more experienced programs), and the program size (larger and smaller programs based on the number of AmeriCorps slots). From these 40 programs, a subset of 20 sites was selected for a more intensive study. This study leveraged data from the DYB reporting system, participant surveys, telephone interviews, and site visits. The participant outcomes analysis included DYB reporting system data on 950 YouthBuild AmeriCorps participants from the 20 sample sites.

Table 2. Core Program Measures by Program Type and Overall\* shows participant outcomes across the core program measures by program type and overall. Results indicate that of the YouthBuild AmeriCorps participants who completed the YouthBuild AmeriCorps program, overall:

- 72.5 percent of program completers were placed in a job post-service
- 12.8 percent of program completers enrolled in post-secondary education post-service
- 59.9 percent completed the program and earned an education award post-service

Additionally, 67.8 percent of YouthBuild AmeriCorps participants who completed the YouthBuild AmeriCorps program—regardless of service delivery model—and who *did*

not have a high school diploma or equivalency pre-service—obtained one upon program completion.

**Table 2. Core Program Measures by Program Type and Overall\***

Core Program Measures	Program Type							
	HSE only		Diploma only		Combined HSE/Diploma		Overall	
	N	%	N	%	N	%	N	%
Program Completion**	304	89.5%	241	84.2%	265	80.4%	810	84.9%
Secondary Credential Attainment (Diploma/HSE)***	245	56.3%	179	82.1%	182	69.2%	606	67.8%
Job Placement***	271	81.2%	203	60.1%	213	73.2%	687	72.5%
Post-Secondary Education Enrollment***	272	11.4%	203	19.7%	213	8.0%	688	12.8%
Earned Education Award Receipt***	272	57.4%	203	73.4%	213	50.2%	688	59.9%

Source: The Center for Youth and Communities (2019)

\*Asterisks (\*) indicates statistically significant differences between program types: \*p≤0.05, \*\*p≤0.01,

\*\*\*p≤0.001.

## Selection of YouthBuild AmeriCorps for the AmeriCorps ROI Project

ICF recommended making YouthBuild AmeriCorps the subject of an ROI study due to the availability of data on costs and benefits and to learn more about the impact of the program’s design in which AmeriCorps members are also program participants. Additionally, the YouthBuild AmeriCorps program targets and recruits opportunity youth, an at-risk population that AmeriCorps is actively engaging in national service projects. This is a population with significant need and for whom a change in trajectory—in terms of educational and career development assistance—could result in a pathway out of poverty into productive and responsible adulthood.

## Comparable ROI Estimates

ROI studies of YouthBuild and other programs that offer similar services provide context for the resulting ROI estimates of the YouthBuild AmeriCorps program.

Researchers have previously estimated the return on investment for YouthBuild programs. For instance, in 2011, the Minnesota YouthBuild Coalition commissioned an ROI analysis of the state’s YouthBuild program, measuring the ROI to the state of Minnesota based on direct benefits and costs over a two-year period.<sup>10</sup> It calculated

<sup>10</sup> Waisanen, N. (2011). The Minnesota YouthBuild Program: Costs and Benefits to the State of Minnesota (Rep.). Retrieved from <https://mn.gov/deed/programs-services/office-youth-development/youth-programs/youthbuild.jsp>

an ROI to the state government using outcomes data from a cohort of 398 YouthBuild participants up to four years after program enrollment. The benefits measured for this ROI analysis included the increase in state tax revenue from income, sales, and excise taxes associated with the estimated increase in wages for YouthBuild participants post-program. The analysis also estimated savings to the state government due to decreased incarceration. The costs used in the analysis included state funding for only the 398 YouthBuild participants. Results indicated that the ROI for YouthBuild in Minnesota is \$3.20 for every dollar of cost over a two-year period.

Miller et al. (2018) studied YouthBuild using an ROI study and a randomized controlled trial evaluation that assessed program impacts on YouthBuild members' education, employment, and earnings outcomes.<sup>11</sup> The ROI study included outcomes from YouthBuild AmeriCorps and other YouthBuild members combined. Thus, results are representative of *all* YouthBuild participants, not just YouthBuild AmeriCorps participants. Benefits included the value of community construction work completed by YouthBuild participants, participants' education and employment gains, reduced public assistance use, increased tax revenue, and decreased criminal activity for the years following program exit. The ROI analysis also estimated program costs per participant. Given the lack of long-term outcomes data, results for this limited ROI analysis were deemed largely inconclusive by the study's authors. Yet, short-term results indicate that during program participation, the ROI was \$0.46 for every dollar invested.

A few other studies have analyzed benefits and costs for programs comparable to YouthBuild. For example, Schochet et al. (2006)<sup>12</sup> estimated the benefits derived from Job Corps. Jobs Corps is a voluntary U.S. Department of Labor program that offers education, counseling, and vocational training services to disadvantaged youth aged 16 to 24 years old. Schochet et al. (2006) included benefits such as those related to earnings and fringe benefits, reduced childcare costs, increased taxes, decreased use of other programs and services, and reductions in crime. Results indicated that for older program participants (aged 20 to 24), earnings gains persisted for five to ten years which led to net benefits to society of roughly \$17,000 per participant. This resulted in an ROI of \$2.11 for every dollar spent on the program. However, the estimated impacts in years 5 to 10 for the full sample of Job Corps participants (all age groups) are all near zero and none were statistically significant. This led to the costs to society exceeding the program's benefits to society by about \$10,300 per participant, resulting in an ROI of \$0.26 for every dollar spent on the program.

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<sup>11</sup> Miller C., Cummings D., Millenky M., Wiegand A., & Long D. (2018). Laying the Foundation: Four-Year Results from the National YouthBuild Evaluation. (Rep.). MDRC. Retrieved from [https://www.mdrc.org/sites/default/files/YouthBuild\\_Final\\_508%20compliant.pdf](https://www.mdrc.org/sites/default/files/YouthBuild_Final_508%20compliant.pdf)

<sup>12</sup> Schochet, P. Z., Burghardt, J., & McConnell, S. (2006). National Job Corps Study and Longer-Term Follow-Up Study: Impact and Benefit-Cost Findings Using Survey and Summary Earnings Records Data. (Rep.). Mathematica Policy Research, Inc. Retrieved from [https://wdr.doleta.gov/research/FullText\\_Documents/National%20Job%20Corps%20Study%20and%20Longer%20Term%20Follow-Up%20Study%20-%20Final%20Report.pdf](https://wdr.doleta.gov/research/FullText_Documents/National%20Job%20Corps%20Study%20and%20Longer%20Term%20Follow-Up%20Study%20-%20Final%20Report.pdf)

Another comparable program is the National Guard Youth ChalleNGe program. This program serves recent high school dropouts and focuses on high school completion, occupational skill development, leadership, and community service. The program is set in a quasi-military environment. In 2012, RAND Corporation conducted an ROI analysis on this program.<sup>13</sup> It estimated that for every dollar expended on the program, the benefits (such as those derived from increased education and employment of program participants) generated \$2.66 in return, over the estimated working life of program participants.

## ROI Methodology

The methodology for the YouthBuild AmeriCorps ROI study consists of the following components:

- 1. Measuring and monetizing program benefits.** This includes using data from a previous evaluation and other third-party sources to determine the benefits to YouthBuild AmeriCorps participants and government. The benefits realized across these two stakeholder groups include:
  - **YouthBuild AmeriCorps participants.** YouthBuild AmeriCorps participants benefit from:
    - a) Increased earnings due to increased employment
    - b) Increased lifetime earnings due to increased post-secondary education derived from the use of education awards
  - **Government.** Government benefits from income, Social Security, and Medicare tax revenue from YouthBuild AmeriCorps participants' increased earnings, and sales tax revenue from the increased economic activity that results from those increased earnings. Government also benefits from tax revenue from YouthBuild AmeriCorps participants' education awards. Finally, government benefits from reduced spending on corrections, public assistance, and social insurance and increased tax revenue associated with the increased educational attainment of YouthBuild AmeriCorps participants that is derived from the program as well as their use of education awards post-service.

This ROI analysis monetized YouthBuild AmeriCorps program benefits in 2020 dollars.

- 2. Estimating forgone benefits (opportunity costs).** This ROI analysis estimated two types of forgone benefits. The first was the professional opportunity cost to YouthBuild AmeriCorps members for their period of national service, during which they could have earned more pay by doing other work. This included both the

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<sup>13</sup> Perez-Arce, F., Louay, C., Loughran, D.S., & Karoly, L. A. (2012). Meeting the Challenge: The Economic Return on Investment in the National Guard Youth ChalleNGe Program. Santa Monica, CA: RAND Corporation. Retrieved from [https://www.rand.org/pubs/research\\_briefs/RB9641.html](https://www.rand.org/pubs/research_briefs/RB9641.html).



forgone earnings of YouthBuild AmeriCorps members and the associated tax revenue for government. The second was the investment opportunity cost for YouthBuild AmeriCorps program funding that could have been used for other purposes. The analysis estimated the investment opportunity cost for both government and private funders based on the forgone return of investing program funds into U.S. Treasury bonds. The rates of return for U.S. Treasury bonds provide a market-based estimate of return for low-risk investments. For the ROI estimates, the analysis subtracted forgone benefits from program benefits to calculate net benefits. The net benefits were then compared to program costs.

**3. Assessing program costs.** YouthBuild provided YouthBuild AmeriCorps program costs for the September 2019 to August 2020 program year. Only the program costs that support YouthBuild AmeriCorps State and National members who directly participate in the YouthBuild AmeriCorps program are included in this ROI analysis. They exclude funds for YouthBuild AmeriCorps VISTA members who assist with capacity building and YouthBuild AmeriCorps State and National members who *do not* participate in the YouthBuild program since benefits for those members are not included in the ROI. Thus, the program costs included in this ROI are comprised of:

- The expected education award amount YouthBuild AmeriCorps participants will collectively use post-service
- The AmeriCorps State and National grant supplied by AmeriCorps
- The match funds received from private as well as local, state, and other federal government stakeholders associated with the AmeriCorps State and National grant

**4. Calculating the ROI.** The ROI analysis includes three ROI calculations, each assessed under three scenarios representing different assumptions about the persistence of program outcomes:

- Total benefits per federal dollar
- Total benefits per funder dollar<sup>14</sup>
- Federal government benefits per federal dollar

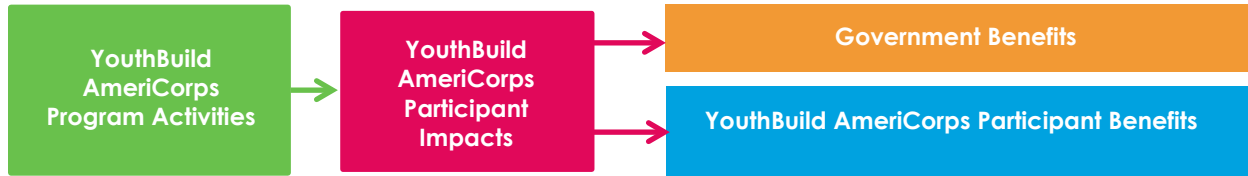
**This analytical framework includes only those benefits that could be reasonably monetized given the available data, and that likely would not have occurred without the YouthBuild AmeriCorps program.**

Figure 1 shows how YouthBuild AmeriCorps program activities can result in YouthBuild AmeriCorps participant and government benefits.

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<sup>14</sup> The funder groups whose investment is included in this calculation are the federal government (i.e., AmeriCorps and other federal sources), state and local governments, and other non-government entities.

**Figure 1. Benefits among YouthBuild AmeriCorps Participants and Government Derived from YouthBuild AmeriCorps**



Available data established that YouthBuild AmeriCorps participants enjoy earnings impacts as a result of serving with and participating in the YouthBuild AmeriCorps program. However, the data do not establish the duration of those benefits. To address a range of possible durations for those benefits as well as lifetime benefits, the analysis includes three scenarios:<sup>15</sup>

- **Short-term.** This scenario assumes short-term earnings impacts. The assumption is that earnings impacts are limited to a single year after program exit. This scenario also assumes no lifetime benefits are realized.
- **Medium-term.** This scenario assumes a longer duration of earnings impacts. The assumption is that earnings impacts last 15 years. A 3 percent discount rate is applied each year to represent net present value in 2020 dollars.<sup>16</sup> This scenario also assumes only half of the net present value of lifetime benefits is realized.
- **Long-term.** This scenario assumes sustained earnings impacts throughout YouthBuild AmeriCorps participants' working years. The assumption is that earnings impacts last 30 years. A 3 percent discount rate is applied each year to represent net present value in 2020 dollars. This scenario also assumes the entire net present value of lifetime benefits is realized.

The long-term scenario (i.e., 30 years of sustained employment and earnings benefits) represents roughly a lifetime of working years for a given person while the short-term scenario assumes benefits for only the year after program participation or service is completed. The medium-term scenario (i.e., 15 years of sustained employment and earnings benefits) represents the midpoint between these two scenarios.

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<sup>15</sup> These three scenarios consider varying durations of how long increased employment and earnings benefits last for YouthBuild AmeriCorps participants. They also consider varying durations for lifetime benefits that stem from the YouthBuild AmeriCorps program. For example, lifetime benefits in terms of decreased public assistance, social insurance, and corrections costs result from YouthBuild AmeriCorps participants' higher educational attainment post-service. The analysis estimates lifetime benefits differently in the three scenarios. Specifically, the net present value of the entire lifetime benefit is realized for the long-term scenario, half of the net present value of the lifetime benefit is realized for the medium-term scenario, and no lifetime benefit amount is realized for the short-term scenario.

<sup>16</sup> The Office of Management and Budget (1992) defines a discount rate as, "The interest rate used in calculating the present value of expected yearly benefits and costs" (p. 18). Regarding the 3 percent discount rate, see Office of Management and Budget (2003).

## Monetizing Program Benefits, Forgone Benefits (Opportunity Cost), and Program Costs

This analysis monetized an array of benefits and included YouthBuild AmeriCorps program costs and expected opportunity costs, all in 2020 dollars, to assess the ROI of the YouthBuild AmeriCorps program. Additional details on the methodology employed and the calculations used for this analysis are in Appendix B.

### Program Benefits

Outcomes of the YouthBuild AmeriCorps program results in monetizable benefits to YouthBuild AmeriCorps participants and government. Table 3 summarizes these benefits and data sources by stakeholder group.

**Table 3. Benefits Realized from the YouthBuild AmeriCorps Program by Stakeholder Group**

Stakeholder Group	Benefits	Data Sources*
YouthBuild AmeriCorps Participants	<ul style="list-style-type: none"> <li>• Additional earnings from increased employment</li> <li>• Additional lifetime earnings from increased educational attainment as a result of education awards</li> </ul>	<ul style="list-style-type: none"> <li>• The Center for Youth and Communities (2019)</li> <li>• YouthBuild<sup>17</sup></li> <li>• Current Population Survey Annual Social and Economic Supplement (ASEC; U.S. Census Bureau, n.d.)</li> <li>• Consumer Price Index (CPI; U.S. Bureau of Labor Statistics, n.d.)</li> <li>• Trostel (2015)</li> <li>• AmeriCorps (n.d.)</li> <li>• Pell Institute (2011)</li> <li>• Pell Institute (2020)</li> <li>• Cataldi et al. (2018)</li> <li>• Hinz et al. (2017)</li> <li>• U.S. Bureau of Labor Statistics (2021)</li> <li>• National Center for Education Statistics (NCES) (2019)</li> <li>• NCES (2020)</li> </ul>

<sup>17</sup> Unless otherwise cited, all information provided directly by YouthBuild for this report was received through ICF's personal communication with YouthBuild in 2021.

Stakeholder Group	Benefits	Data Sources*
Government	<ul style="list-style-type: none"> <li>• Tax revenue from increased earnings by YouthBuild AmeriCorps participants post-program and sales tax revenue from the induced increased economic activity</li> <li>• Tax revenue from education awards</li> <li>• Reduced lifetime spending on corrections, public assistance, and social insurance from increased educational attainment as a result of education awards</li> <li>• Lifetime tax revenue from increased educational attainment as a result of education awards</li> </ul>	<ul style="list-style-type: none"> <li>• Consumer Expenditure Survey (U.S. Bureau of Labor Statistics, 2021)</li> <li>• Federal and state income tax rates (El-Sibaie, 2019; Loughhead, 2020)</li> <li>• Social Security tax rate (Social Security Administration (SSA), 2020)</li> <li>• Medicare tax rate (SSA, 2020)</li> <li>• Combined state and average local sales tax rates (Cammenga, 2020)</li> <li>• Trostel (2015)</li> <li>• CPI (U.S. Bureau of Labor Statistics, n.d.)</li> <li>• AmeriCorps (n.d.)</li> <li>• American Community Survey (2019) (ACS; U.S. Census Bureau, n.d.)</li> </ul>

\* Usage of these data sources is discussed in more detail in subsequent sections. Tax rates used on YouthBuild AmeriCorps participants' increased earnings, their forgone earnings, and their education awards are national averages. See Appendix B for a detailed discussion.

### **Additional Earnings from Increased Employment (Benefit to YouthBuild AmeriCorps Participants)**

YouthBuild AmeriCorps participants benefit from skills gained during their service term which position them for improved employability, particularly in the housing construction sector. YouthBuild AmeriCorps participants also benefit from the completion of a high school diploma or equivalency, as part of their national service, which also leads to improved employment outcomes. Specifically, the Center for Youth and Communities (2019) found that of YouthBuild AmeriCorps program completers that did not have a high school diploma or equivalency pre-service, 67.8 percent obtained one of these credentials by the end of their service term. According to the U.S. Bureau of Labor Statistics (2020), these gains in educational attainment translate to decreased unemployment. Thus, the completion of secondary education credentials through the YouthBuild AmeriCorps program can in part drive the employment gains of YouthBuild AmeriCorps participants.

The Center for Youth and Communities (2019) also reported that of YouthBuild AmeriCorps program completers, 72.5 percent obtained a job post-service.<sup>18</sup> Moreover, the study authors provided data that indicated that of program completers, 26.7 percent reported they were employed at some point during the six months prior to starting the YouthBuild AmeriCorps program. The latter metric does not represent the employment rate of YouthBuild AmeriCorps participants immediately before program enrollment. However, it serves as a conservative proxy for this population's employment prior to participating in the program. Using the 26.7 percent as this population's pre-service employment rate in this ROI analysis assumes that if YouthBuild AmeriCorps participants were employed at any time during the six months before the program, they would likely be able to secure a job without participating or serving in the YouthBuild AmeriCorps program. The difference between these two percentages (i.e., 45.8 percent) approximates the gain in employment attributable to participating in the YouthBuild AmeriCorps program.

To estimate employment impacts, the analysis applied the 45.8 percent to the number of YouthBuild AmeriCorps participants who completed the YouthBuild AmeriCorps program during the September 2019 to August 2020 program year. The product estimated the number of YouthBuild AmeriCorps participants who became employed due to participation in the YouthBuild AmeriCorps program.

To calculate the additional earnings realized due to this employment gain, the analysis followed these steps:

1. Calculated YouthBuild AmeriCorps participants' per-person post-service annual earnings using average hourly wage data provided by YouthBuild
2. Multiplied the post-service annual earnings by the estimated number of *additional* YouthBuild AmeriCorps participants employed due to program participation

Following these steps conservatively estimates the aggregate pre-tax earnings of YouthBuild AmeriCorps participants who became employed due to program participation after program exit. The pre-tax earnings were reduced by estimated taxes and discounted based on the short-term, medium-term, and long-term scenarios in net present 2020 dollars. These cumulative post-tax earnings estimate the disposable income earned by YouthBuild AmeriCorps participants after participating in the YouthBuild AmeriCorps program.

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<sup>18</sup> It is important to note that The Center for Youth and Communities (2019) did not indicate when job placement data was collected from study participants (e.g., upon program completion, one year post-service, etc.). In speaking with the study authors, ICF verified that time was not a variable considered in this evaluation's methodology. In other words, this employment outcome was not tracked in terms of either time from program entry or time from program exit. The authors noted that time from program completion to final data collection could have ranged from one to 2.25 years. Given this, the analysis made a conservative assumption that the number of additionally-employed YouthBuild AmeriCorps participants would be spread equally across the 27-month post-program period. See Appendix B for further details.

### **Additional Lifetime Earnings from Increased Educational Attainment as a Result of Education Awards (Benefit to YouthBuild AmeriCorps Participants)**

YouthBuild AmeriCorps participants serve in part time positions and do not receive living allowances during their service term. In addition to not getting a living allowance—which is not required for less than full time members—YouthBuild AmeriCorps participants are not paid for their work done in the community (e.g., construction, etc.). However, all YouthBuild AmeriCorps participants that complete the program receive education awards after program exit. Results from The Center for Youth and Communities (2019) indicate that 59.9 percent of YouthBuild AmeriCorps program participants complete the program and earned an education award. This amount is taxable, so the post-tax amount was used to calculate benefits to YouthBuild AmeriCorps participants.

AmeriCorps members in general—as documented in Friedman et al. (2016)—can use their education awards to a) pay for additional educational attainment or b) repay student loans. However, all YouthBuild AmeriCorps participants during the most recent program year had either a high school education or less prior to program entry. Thus, upon completing the YouthBuild AmeriCorps program, these individuals would not have had any outstanding student loans because they have not yet completed college-level courses nor received a post-secondary degree. Given this, this ROI analysis assumes all 59.9 percent of YouthBuild AmeriCorps program completers used their education award to pursue post-secondary education.

With this assumption, this ROI analysis estimated the expected increased lifetime earnings of YouthBuild AmeriCorps participants attributable to the use of education awards to pay for additional post-secondary schooling. The analysis used the education award amount for the 2020 to 2021 program year—discounted to net present 2020 dollars and provided by AmeriCorps—to estimate the post-tax education award amount that YouthBuild AmeriCorps participants used to pay for post-secondary education. The analysis then estimated the value of the post-secondary educational attainment attributable to the education awards in terms of lifetime earnings (Trostel, 2015). These estimated additional post-tax lifetime earnings are included as a benefit to YouthBuild AmeriCorps participants.

### **Tax Revenue Generation and Reduced Spending (Benefits to Government)**

The benefits of YouthBuild AmeriCorps participants result in benefits to the various levels of government.

#### ***Benefits to Government from Increased Earnings by YouthBuild AmeriCorps Participants***

Government benefits from increased earnings by YouthBuild AmeriCorps participants. Those benefits include:

- **Income tax revenue from increased YouthBuild AmeriCorps participant earnings post-service.** Federal income taxes, state income taxes, Medicare taxes, and Social Security taxes were estimated for the additional pre-tax earnings of YouthBuild AmeriCorps participants based on 2020 rates. For both federal and state income taxes, the analysis estimated proportional tax rates representing the share of earnings paid in taxes.

To estimate proportional tax rates that reflect federal- and state-level progressive tax brackets and standard deductions, the amount of total taxes paid was divided by the pre-tax earnings per YouthBuild AmeriCorps participant. For the state income tax rate, the analysis weighted individual state-level rates by their respective state populations to estimate a weighted national tax rate to apply program-wide. A weighted national tax rate was used because the YouthBuild AmeriCorps program operates nationwide. Also, YouthBuild AmeriCorps participants may disperse to various locations following their service terms and continue to migrate over the course of their working years.

- **Sales tax revenue from increased economic activity that results from increased YouthBuild AmeriCorps participant earnings post-service.** To estimate the additional sales tax revenue generated due to the additional post-tax earnings of YouthBuild AmeriCorps participants, the combined state and average local sales tax rate for the U.S.—weighted by states' populations—was calculated. The analysis applied that rate to the estimated taxable expenditures of YouthBuild AmeriCorps participants based on their post-service pre-tax earnings using Consumer Expenditure Survey data (U.S. Bureau of Labor Statistics, 2021).<sup>19</sup> The resulting product was then applied to the share of post-tax earnings attributable to program participation to estimate state and local government sales tax revenue.

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<sup>19</sup> To calculate the estimated taxable expenditures, Consumer Expenditure Survey (CES) Table 1203 was used from U.S. Bureau of Labor Statistics (2021). This table lists the annual expenditure means by pre-tax income tax brackets. Thus, the pre-tax earnings of YouthBuild AmeriCorps participants were used instead of their post-tax earnings to calculate this metric. Please visit this site for more details: <https://www.bls.gov/cex/tables/calendar-year/mean-item-share-average-standard-error.htm#cu-income>.

## **Benefits to Government from Increased Educational Attainment by YouthBuild AmeriCorps Participants**

Government benefits from increased secondary and post-secondary educational attainment by YouthBuild AmeriCorps participants. Those benefits include:

- **Tax revenue from education awards.** Education awards provided to YouthBuild AmeriCorps participants upon program completion are subject to taxes, resulting in additional government revenue.<sup>20</sup> This ROI analysis applied federal income, state income, Social Security, and Medicare tax rates to the expected total amount of education awards to be given to YouthBuild AmeriCorps participants to estimate these additional taxes. Both estimated proportional federal and state income tax rates were used. Sales taxes were not estimated for education awards because they cannot be used for consumer purchases.
- **Reduced lifetime spending on corrections, public assistance, and social insurance from increased educational attainment as a result of education awards.** The Center for Youth and Communities (2019) found that 67.8 percent of YouthBuild AmeriCorps program completers that did not have a high school diploma or equivalency pre-service obtained one of these secondary credentials post-service. The study also indicated that of YouthBuild AmeriCorps program completers, 12.8 percent enrolled in post-secondary education after program exit. The additional number of YouthBuild AmeriCorps participants who completed secondary and post-secondary schooling translates into reduced lifetime spending on public assistance, social insurance, and corrections (Trostel, 2015). This is because higher educational attainment is associated with less dependence on government assistance programs and lower incarceration rates (Blagg & Blom, 2018; Harlow, 2003). Because YouthBuild AmeriCorps participation increases educational attainment, government spends less.

The analysis used the expected increase in secondary and post-secondary educational attainment for YouthBuild AmeriCorps participants to estimate the lifetime government cost savings from Medicaid, SNAP, unemployment insurance, worker's compensation, and corrections.

- **Lifetime tax revenue from increased educational attainment as a result of education awards.** The last benefit related to YouthBuild AmeriCorps participants captured in this ROI study is the lifetime tax revenue generated from participants' post-secondary educational attainment due to use of the education award. Here, the estimated increase in YouthBuild AmeriCorps participants' post-secondary educational attainment was paired with the expected difference in per-person lifetime taxes for individuals with different levels of education as provided by Trostel (2015). This lifetime tax revenue

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<sup>20</sup> The tax implications of the AmeriCorps member education award are stated here: AmeriCorps. (n.d.). Segal AmeriCorps Education Award. Retrieved from <https://americorps.gov/members-volunteers/segal-ameri-corps-education-award>



includes federal income, state income, property, Social Security, Medicare, and sales taxes derived from use of the education award.

The analysis did not calculate similar lifetime tax benefits related to YouthBuild AmeriCorps participants' gains in secondary education. As noted earlier, a substantial portion of YouthBuild AmeriCorps participants complete a high school diploma or equivalency during their program participation. The analysis considered gains in secondary education to be drivers of the employment gains (and the associated increase in earnings) as described in the previous "Additional Earnings from Increased Employment" section, although the in-service training and skill development may also be a driver of employment gains. The tax revenue from these increased earnings was calculated using the methods delineated in the Benefits to Government from Increased Earnings by YouthBuild AmeriCorps Participants section. Benefits to Government from Increased Earnings by YouthBuild AmeriCorps Participants Thus, to avoid double-counting, the analysis only estimated increased lifetime tax revenue based on gains in post-secondary education.

### **Forgone Benefits (Opportunity Costs)**

The analysis estimated forgone benefits of both members and funders because of their participation and investment in the YouthBuild AmeriCorps program. These forgone benefits were subtracted from the program benefits (shown above) to calculate the net benefits of the program. Those net benefits were then compared to program cost to calculate the ROI. These forgone benefits are referred to as the professional and investment opportunity costs, described below.

### **Professional Opportunity Cost to YouthBuild AmeriCorps Participants**

The first opportunity cost was the professional opportunity cost to YouthBuild AmeriCorps participants for their period of national service, during which they could otherwise be working and earning higher pay. To calculate this, this analysis estimated what YouthBuild AmeriCorps participants would have earned if they did *not* participate in the YouthBuild AmeriCorps program. Specifically, this analysis estimated the weighted average annual earnings of this group as well as their weighted unemployment rate using the demographic distribution of YouthBuild AmeriCorps participants for the most recent program year and data from the Current Population Survey's Annual Social and Economic (ASEC) Supplement for March 2019. The YouthBuild demographics included were gender, age, race/ethnicity, economically disadvantaged status, and pre-service highest level of education. The weighted average annual earnings represent the expected earnings of YouthBuild AmeriCorps participants if they were employed, *not* participating in the YouthBuild AmeriCorps program. The weighted unemployment rate represents how many of the YouthBuild AmeriCorps participants would have been unemployed if they did *not* participate or serve in the YouthBuild AmeriCorps program. These weighted metrics were first used to estimate the portion of YouthBuild AmeriCorps program completers who would have been employed and then to calculate the aggregate earnings those employed individuals would have earned.

Some of the forgone earnings would have been paid in the form of taxes. To appropriately allocate opportunity costs between YouthBuild AmeriCorps participants and government, the analysis estimated the reduced tax revenue for federal income, state income, Social Security, and Medicare taxes. The analysis also estimated the reduction in sales tax from reduced consumption. These taxes combined represent what the various levels of government are forgoing in tax revenue when these individuals decide to serve and participate in the YouthBuild AmeriCorps program instead of work. The sum of all forgone taxes and the forgone post-tax earnings of YouthBuild AmeriCorps participants is called the total professional opportunity cost.

It is important to note that in the *federal government benefits per federal dollar* ROI calculation, only federal government (not total) benefits are included. Given this, only federal components of the professional opportunity cost (forgone federal income, Social Security, and Medicare taxes) are subtracted from all federal government benefits for that ROI calculation.

### **Investment Opportunity Cost to Funders**

The second opportunity cost used in this ROI analysis was an investment opportunity cost. It estimates forgone return if all funds used to support YouthBuild AmeriCorps during the most recent program year were invested in U.S. Treasury bonds instead. To calculate this, the analysis matched 2019 real interest rates provided by Office of Management and Budget (2020) to each of the scenarios in the ROI analysis: short-term, medium-term, and long-term.<sup>21</sup> The rates of return for U.S. Treasury bonds provide a market-based estimate of return for low-risk investments.

The real interest rate for the 3-year maturity was used for the short-term scenario, the average between the 10-year and 20-year maturity rates was used as the rate for the medium-term scenario, and the 30-year maturity rate was used for the long-term scenario. These real interest rates were 1.3, 1.45, and 1.5 percent, respectively. Also, the number of time periods elapsed on these bonds equaled the length of the short-term, medium-term, and long-term scenarios (1 year, 15 years, and 30 years, respectively). These bonds compound bi-annually according to Department of Treasury (n.d.).

Note that for 1) the *federal government benefits per federal dollar* and 2) the *total benefits per federal dollar* ROI calculations, the investment opportunity cost subtracted from the benefits in these calculations is the forgone accrued interest from investing only the federal funds into these U.S. Treasury bonds. This is called the federal investment opportunity cost. This is done because these ROI calculations only include federal government (not total) program costs. For the other ROI calculation estimated in this analysis, the investment opportunity cost subtracted from the benefits realized is the forgone accrued interest from investing all YouthBuild AmeriCorps funds (both federal and non-federal) into these U.S. Treasury bonds. This is called the total investment opportunity cost. See Appendix B for details.

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<sup>21</sup> The analysis used 2019 real interest rates for U.S. Treasury bonds because the YouthBuild AmeriCorps program year analyzed began in 2019.

## Program Costs

The costs for the YouthBuild AmeriCorps program, used for this ROI analysis, include federal and required match funding and any other funding used to support program operations. The program costs are specific to the YouthBuild AmeriCorps program participant cohort whose outcomes are measured in this analysis. Namely, program costs included are only those that were used to fund the positions and activities of YouthBuild AmeriCorps State and National members who participated in YouthBuild AmeriCorps during the September 2019 to August 2020 program year. They are not inclusive of program costs associated with YouthBuild AmeriCorps VISTA members who served during this same period nor those associated with YouthBuild AmeriCorps State and National members who *did not* participate in YouthBuild AmeriCorps since benefits related to these member groups are not included in the ROI analysis.

Table 4 shows the segmentation of YouthBuild AmeriCorps program costs by funder.<sup>22</sup> The federal funds included the AmeriCorps State and National grant distributed to YouthBuild AmeriCorps program sites nationwide. Federal dollars also helped pay for the expected education award amounts granted to YouthBuild AmeriCorps participants once they completed their service term. Funds provided by state/local governments, private entities, as well as from non-AmeriCorps federal agencies represent the match funding YouthBuild AmeriCorps received for the program year.

AmeriCorps (providing both the grant and the expected education award amounts) is the leading funder for the YouthBuild AmeriCorps program, sponsoring more than half of program costs.<sup>23</sup> Moreover, YouthBuild AmeriCorps's match funding was an amount equal to almost 84 percent of AmeriCorps federal funds. This match provides the YouthBuild AmeriCorps program with the resources to serve more YouthBuild AmeriCorps participants and provide more services than would be otherwise available only under the AmeriCorps federal funds. That translates into increased aggregate benefits realized across stakeholder groups.

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<sup>22</sup> Program cost data were provided by the senior director of impact and learning at YouthBuild.

<sup>23</sup> The education award comes from the National Service Trust. This is a line-item in AmeriCorps's annual budget approved by Congress every year. Thus, the expected education award amounts to be realized by YouthBuild AmeriCorps participants post-service is grouped with the AmeriCorps State and National grant as both being supplied by AmeriCorps in this analysis. For more information, see [https://americorps.gov/sites/default/files/documents/CNCS%20FY%202021%20Congressional%20Budget%20Justification%20w%20IG%20Message%20%28Final%29\\_508.pdf](https://americorps.gov/sites/default/files/documents/CNCS%20FY%202021%20Congressional%20Budget%20Justification%20w%20IG%20Message%20%28Final%29_508.pdf).

**Table 4. YouthBuild AmeriCorps Program Costs by Funder Type**

Funder	Funding Provided for the Program Year (\$)	Percent of Total (%)
AmeriCorps	\$10,645,325	54.4%
State/Local Governments (i.e., Match Funding)	\$4,661,442	23.8%
Private (i.e., Match Funding)	\$4,198,874	21.5%
Non-AmeriCorps Federal (i.e., Match Funding)	\$66,839	0.3%
<b>Total</b>	<b>\$19,572,480</b>	<b>100.0%</b>

### ROI Study Limitations

Study limitations include those related to the available data sources and to the ability to capture all benefits that stem from the YouthBuild AmeriCorps program.

#### ***Limitations to the Third-Party Evaluation Used***

The Center for Youth and Communities (2019)—which describes program impacts for YouthBuild AmeriCorps participants—did not provide data on the pre-service employment rate and post-service earnings of YouthBuild AmeriCorps participants. However, YouthBuild was able to provide the average earnings for their most recent program cohort one year post-program. This data was used to estimate additional earnings realized by YouthBuild AmeriCorps participants due to their increased employment. Moreover, the study authors were able to provide other supplemental data collected during the evaluation that could be used as a proxy for YouthBuild AmeriCorps participants' pre-service employment rate. This data indicated the percentage of YouthBuild AmeriCorps program completers who were employed at some point during the six months prior to starting the YouthBuild AmeriCorps program. Even though this measure does not represent participants' employment status upon program entry, it implies their pre-service employability.

Additionally, as mentioned in an earlier footnote, The Center for Youth and Communities (2019) collected job placement data at a time that varied by participant instead of at set intervals (e.g., one year post-program). After speaking with the study authors, the analysis assumed the employment gains realized by YouthBuild AmeriCorps participants would be gradual based on the study's data collection timeline. This conservative assumption may not be representative of the actual timing of participants' employment benefits after program exit.

While The Center for Youth and Communities (2019) also indicated the portion of YouthBuild AmeriCorps participants that *enrolled* in post-secondary education post-service, the evaluation did not track post-secondary education *completion*. Such data is also not collected through YouthBuild. Given this, the analysis used graduation rates for populations comparable to YouthBuild AmeriCorps participants—in terms of

financial need, socioeconomic status, and first-generation status—from third-party sources to approximate completion rates across post-secondary degree types.

This evaluation also did not have a pre-post study design, nor did it use a comparison group of non-YouthBuild AmeriCorps participants to measure the impact of national service on outcomes of interest. To compensate, this analysis used supplemental data provided by the evaluation authors and third-party sources to capture benefits of the YouthBuild AmeriCorps program.

### ***Limitations to the Array of Benefits Captured***

The Center for Youth and Communities (2019) does not report on outcomes that stem from YouthBuild AmeriCorps participants' service work. Namely, benefits to stakeholder groups besides YouthBuild AmeriCorps participants and the associated benefits to government are not captured in this ROI analysis. For instance, savings in construction costs due to YouthBuild AmeriCorps participants predominantly building affordable housing in low-income communities could not be estimated based on available data. While YouthBuild gathers information on the number of new housing units completed or rehabbed by YouthBuild AmeriCorps participants, they do not collect data related to the costs or value of such service work. In addition, due to a lack of data, this analysis did not include benefits from other newly-added services YouthBuild AmeriCorps participants provide such as those related to healthcare, computer technology, hospitality, and environmental services. If the data were available, including these and other benefits to society would increase the resulting ROI and provide a more complete picture of the varied impacts of the YouthBuild AmeriCorps program.

## **Program Benefits, Forgone Benefits (opportunity cost), Program Costs, and ROI Results**

The ROI for the YouthBuild AmeriCorps program measures the benefits of the program compared to its costs to determine the return to different stakeholders. This section provides ICF's estimates of program benefits, forgone benefits (opportunity cost), program costs, and resulting ROI.

### **Program Benefits**

Table 5 shows the estimates of monetized benefits of the YouthBuild AmeriCorps program by stakeholder group for each of the three scenarios. The proportion of benefits going to YouthBuild AmeriCorps participants, the federal government, and state/local governments were relatively stable across scenarios. In all three scenarios, YouthBuild AmeriCorps participants realized two-thirds or more of program benefits.

**Table 5. Program Benefits by Recipient**

Recipient	Benefits by Scenario (2020\$)		
	Short Term	Medium Term	Long Term
YouthBuild AmeriCorps Participants (percent of total)	\$3,114,306 (75%)	\$82,912,429 (68%)	\$138,597,854 (66%)
Federal Government (percent of total)	\$782,437 (19%)	\$23,992,231 (20%)	\$43,466,256 (21%)
State/Local Governments (percent of total)	\$263,148 (6%)	\$15,062,301 (12%)	\$28,274,057 (13%)
<b>Total (Total percent)</b>	<b>\$4,159,891 (100%)</b>	<b>\$121,966,961 (100%)</b>	<b>\$210,338,167 (100%)</b>

### Forgone Benefits (Opportunity Costs)

Table 6 shows the breakdown of the forgone benefits from the professional opportunity cost to YouthBuild AmeriCorps participants and government in net present 2020 dollars. It lists the amount of post-tax earnings participants forgo—and the associated taxes forgone—to participate in the YouthBuild AmeriCorps program. This is called the total professional opportunity cost. For the *federal government benefits per federal dollar* ROI calculation, only the forgone federal income, Social Security, and Medicare taxes were subtracted from the total federal benefits. The sum of these forgone federal taxes is called the federal professional opportunity cost.

**Table 6. Forgone Benefits from Professional Opportunity Cost**

Forgone Category	Professional Opportunity Cost Amount Across All Scenarios (2020\$)
Post-Tax Earnings	\$9,742,868
Federal Income Taxes	\$451,390
State Income Taxes	\$255,221
Social Security and Medicare Taxes	\$865,604
Sales Taxes	\$442,907
<b>Total</b>	<b>\$11,757,989</b>

\*Numbers may not sum due to rounding.

Table 7 lists the forgone benefits from the investment opportunity costs incurred by scenario and for when:

- a) Total YouthBuild AmeriCorps funds for the program year are invested in U.S. Treasury bonds and
- b) Only federal YouthBuild AmeriCorps funds (both program and education award funding) are invested in these bonds.

Table 7 also lists the 2019 real interest rates and the number of years elapsed (with two payments a year) that were used as inputs to calculate the forgone accrued interest value for each scenario. The analysis used 2019 real interest rates for U.S. Treasury bonds because the YouthBuild AmeriCorps program year analyzed began in 2019.

**Table 7. Forgone Benefits from Investment Opportunity Cost by Scenario and Funding Stream**

Funding Stream	Forgone Accrued Interest by Scenario (2020\$)		
	Short Term (1.30% interest rate and 1 year elapsed)	Medium Term (1.45% interest rate and 15 years elapsed)	Long Term (1.50% interest rate and 30 years elapsed)
Total YouthBuild AmeriCorps Funding	\$255,269	\$4,736,355	\$11,071,781
Federal YouthBuild AmeriCorps Funding Only	\$139,711	\$2,592,242	\$6,059,668

## Program Costs

Table 8 shows the cost of the YouthBuild AmeriCorps program for the September 2019 to August 2020 program year by funding source. The table underscores what portion of YouthBuild AmeriCorps funds were provided by AmeriCorps compared to stakeholder groups (i.e., match funding). The table also highlights a further breakdown for these two funding streams. Overall, the total cost of the YouthBuild AmeriCorps program for this program year was \$19.6 million. Fifty-four percent of YouthBuild AmeriCorps program costs (around \$10.6 million) was funded by AmeriCorps. This amount included the AmeriCorps grant and the expected education awards. The remaining 46 percent (or \$8.9 million) consisted of match funding from private stakeholders, non-AmeriCorps federal government entities, as well as state and local governments.

**Table 8. Program Cost by Funding Source for YouthBuild AmeriCorps**

Funding Source	Amount (\$)	Percent of Total (%)
<b>Total AmeriCorps Federal Funding</b>	<b>\$10,645,325</b>	<b>54.4%</b>
AmeriCorps State & National Grant	\$8,068,367	41.2%
Expected Education Awards	\$2,576,958	13.2%
<b>Total Match Funding</b>	<b>\$8,927,155</b>	<b>45.6%</b>
Match Federal Funding	\$66,839	0.3%
Match State & Local Government Funding	\$4,661,442	23.8%
Match Private Funding	\$4,198,874	21.5%
<b>Grand Total</b>	<b>\$19,572,480</b>	<b>100.0%</b>

### ROI Results

Table 9 shows the benefits, forgone benefits (opportunity costs), and costs that are included in each of the three types of ROI calculations.



**Table 9. Program Benefits, Forgone Benefits, and Costs Included in the ROI Calculations**

ROI Calculation	Program Benefits	Forgone Benefits	Costs
Total Benefits per Federal Dollar	<ul style="list-style-type: none"> <li>All YouthBuild AmeriCorps participant and government benefits derived from the program</li> </ul>	<ul style="list-style-type: none"> <li>Forgone benefits from total professional opportunity cost</li> <li>Forgone benefits from Federal investment opportunity cost</li> </ul>	<ul style="list-style-type: none"> <li>AmeriCorps federal funding</li> <li>Match federal funding</li> </ul>
Total Benefits per Funder Dollar	<ul style="list-style-type: none"> <li>All YouthBuild AmeriCorps participant and government benefits derived from the program</li> </ul>	<ul style="list-style-type: none"> <li>Forgone benefits from total professional opportunity cost</li> <li>Forgone benefits from total investment opportunity cost</li> </ul>	<ul style="list-style-type: none"> <li>AmeriCorps federal funding</li> <li>All match funding</li> </ul>
Federal Government Benefits per Federal Dollar	<ul style="list-style-type: none"> <li>Additional federal government tax revenue generation and reduced spending attributable to the program</li> </ul>	<ul style="list-style-type: none"> <li>Forgone Benefits from Federal professional opportunity cost</li> <li>Forgone benefits from Federal investment opportunity cost</li> </ul>	<ul style="list-style-type: none"> <li>AmeriCorps federal funding</li> <li>Match federal funding</li> </ul>

This analysis developed ROI estimates using the three scenarios (short-term, medium-term, and long-term). As noted above, the ROI calculations compared the net benefits of the YouthBuild AmeriCorps program with program costs to calculate the ROI. Table 10 shows the gross program benefits, forgone benefits, net benefits, and program costs of the YouthBuild AmeriCorps program, along with the results of the three ROI calculations.

**Table 10. Benefits and Costs by ROI Scenario**

Benefits and Costs	ROI Scenario (2020\$)		
	Short term	Medium term	Long term
<b>Total Gross Program Benefits</b>	<b>\$4,159,891</b>	<b>\$121,966,961</b>	<b>\$210,338,167</b>
Member Benefits	\$3,114,306	\$82,912,429	\$138,597,854
Federal Government Benefits	\$782,437	\$23,992,231	\$43,466,256
State/Local Government/other funder Benefits	\$263,148	\$15,062,301	\$28,274,057

Benefits and Costs	ROI Scenario (2020\$)		
	Short term	Medium term	Long term
<b>Total Forgone Benefits (Opportunity Costs)</b>	<b>\$12,013,258</b>	<b>\$16,494,344</b>	<b>\$22,829,770</b>
Forgone Benefits to Members (Forgone Earnings Post-Taxes)	\$9,742,868	\$9,742,868	\$9,742,868
Forgone Tax Revenue from Member Earnings	\$2,015,121	\$2,015,121	\$2,015,121
Forgone Tax Revenue to Federal Government	\$1,316,994	\$1,316,994	\$1,316,994
Forgone Tax Revenue to State/Local Government	\$698,128	\$698,128	\$698,128
Forgone Benefits from Funding Provided (All Funders)	\$255,269	\$4,736,355	\$11,071,781
Forgone Investment Benefits to Federal Government from Funding Provided	\$139,711	\$2,592,242	\$6,059,668
Forgone Investment Benefits to State/Local Government and Other Funders from Funding Provided	\$115,558	\$2,144,113	\$5,012,113
<b>Total Program Net Benefits (Total Program Gross Benefits – Total Forgone Benefits)</b>	<b>-\$7,853,367</b>	<b>\$105,472,617</b>	<b>\$187,508,397</b>
Net Benefits to Members (Member Benefits – Forgone Benefits to Members)	-\$6,628,562	\$73,169,561	\$128,854,986
Net Benefits to Federal Government (Federal Government Benefits – Forgone Tax Revenue to Federal Government – Forgone Investment Benefits to Federal Government from Funding Provided)	-\$674,268	\$20,082,995	\$36,089,594
Net Benefits State/Local Government and other funders (State/Local Government Benefits – Forgone Tax Revenue to State/Local Government – Forgone Investment Benefits to State/Local Government and Other Funders from Funding Provided)	-\$550,538	\$12,220,060	\$22,563,816
<b>Total Program Costs</b>	<b>\$19,572,480</b>	<b>\$19,572,480</b>	<b>\$19,572,480</b>
Federal Government Cost	\$10,712,164	\$10,712,164	\$10,712,164
Non-Federal Government Costs	\$8,860,316	\$8,860,316	\$8,860,316
<b>ROI for Total Benefits per Federal Dollar</b> (Total Program Net Benefits / Federal Government Costs)	<b>-\$0.72</b>	<b>\$10.05</b>	<b>\$17.97</b>
<b>ROI for Total Benefits per Funder Dollar</b> (Total Program Net Benefits / Total Program Costs)	<b>-\$0.40</b>	<b>\$5.39</b>	<b>\$9.58</b>
<b>Federal Government Benefits per Federal Dollar</b> (Net Benefits Federal Government / Federal Government Costs)	<b>-\$0.06</b>	<b>\$1.87</b>	<b>\$3.37</b>

Table 11 summarizes the ROI results for the YouthBuild AmeriCorps program across the short-term, medium-term, and long-term scenarios. Three different ROI results are calculated for each scenario. Since two of the calculations include benefits to society (e.g., YouthBuild AmeriCorps participants), the results are expressed as cost–benefit ratios, while maintaining the ROI terminology. Specifically, these ratios take the form of the sum of monetized benefits over the sum of applicable program costs. The ROIs expressed as cost–benefit ratios in this study can be interpreted as the amount of dollars returned for every \$1.00 of investment (or program cost).<sup>24</sup> See Appendix B for the formulas used to calculate each ROI calculation.

**Table 11. ROI Results for YouthBuild AmeriCorps**

ROI Calculation	ROI Scenario		
	Short term	Medium term	Long term
Total Benefits per Federal Dollar	-\$0.72	\$10.05	\$17.97
Total Benefits per Funder Dollar	-\$0.40	\$5.39	\$9.58
Federal Government Benefits per Federal Dollar	-\$0.06	\$1.87	\$3.37

The YouthBuild AmeriCorps program produces strong returns for the medium- and long-term scenarios, particularly when benefits to YouthBuild AmeriCorps participants and state/local governments are included. This is indicated by the results of the *total benefits per federal dollar* and the *total benefits per funder dollar* ROI calculations for these two scenarios.

In the short-term scenario—where benefits for only one year post-program are included—the ROI results are negative, indicating that costs outweigh the benefits in the first year after the program. A negative ROI in the first year post-program is common in programs where there is an initial investment made and benefits accrue in the following years. This is because it often requires several years of benefits to recoup the initial investment and generate positive returns. Part of the reason why the ROI calculations are negative in the short-term is because this analysis assumed that YouthBuild AmeriCorps participants gradually gained employment over a 2.25-year period, based on information provided by the authors of *The Center for Youth and Communities* (2019). The one-year timeframe of the short-term scenario only captures a fraction of the employment benefits that YouthBuild AmeriCorps participants experience over the 2.25-year period. Additionally, as noted in the ROI methodology, lifetime benefits that stem from the YouthBuild AmeriCorps program are not realized in the short-term scenario. Given this and considering the forgone benefits in the first year (i.e., professional and investment opportunity costs) the ROI calculations for the

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<sup>24</sup> ROIs can be expressed in percentages or as ratios, such as in this study. Although not shown as a ratio in the results, the ROIs in this study show the amount of return for every \$1 invested.

short-term scenario are all negative. Specifically, for every \$1 invested by the federal government, the initial \$1 investment plus an additional \$0.72 are lost. When considering the program costs of all funders, for every \$1 invested, the initial \$1 investment plus an additional \$0.40 are lost. Moreover, for every \$1 the federal government invests, the federal government alone loses that initial \$1 investment as well as an additional \$0.06.

In the medium-term scenario, YouthBuild AmeriCorps participants and government realize a combined return of \$10.05 for every \$1 invested by the federal government in the YouthBuild AmeriCorps program. Moreover, for every \$1 invested in the YouthBuild AmeriCorps program from all funders, \$5.39 is returned to both society and government combined.<sup>25</sup> Even the most conservative ROI calculation under this scenario yields a positive return. Specifically, for every \$1 that the federal government invests in the YouthBuild AmeriCorps program, the federal government receives \$1.87.

For the long-term scenario, the ROI for *total benefits per federal dollar*, *total benefits per funder dollar*, and *federal government benefits per federal dollar* are \$17.97, \$9.58, and \$3.37, respectively. Namely, for both the medium- and long-term scenarios, all the ROI calculations are positive where all funders realize a return on their investment in the YouthBuild AmeriCorps program.

The magnitude and direction of the ROI calculations are driven by several factors:

- **YouthBuild AmeriCorps participants' strong secondary education and employment outcomes.** For the most recent program year, YouthBuild data indicated that 85 percent of YouthBuild AmeriCorps participants had less than a high school education prior to program entry. With regard to education outcomes, The Center for Youth and Communities (2019) reported that of YouthBuild AmeriCorps program completers that did not have a high school diploma or equivalency pre-service, 67.8 percent obtained one of these secondary credentials post-service due to participating in the YouthBuild AmeriCorps program. This ROI analysis estimated that due to participating and serving in the YouthBuild AmeriCorps program, an additional 441 YouthBuild AmeriCorps participants completed their secondary education. According to the U.S. Bureau of Labor Statistics (2020), gains in educational attainment—especially obtaining a high school diploma or equivalent—translate to decreased unemployment and higher earnings. Findings from The Center for Youth and Communities (2019) and its authors also indicate that an additional 45.8 percent of YouthBuild AmeriCorps program completers obtained a job post-service. Based on this finding, this ROI analysis estimated that an additional 320 YouthBuild AmeriCorps program completers became employed due to participating and serving in the YouthBuild AmeriCorps program. Therefore, the completion of secondary credentials through the YouthBuild AmeriCorps program plays a crucial part in driving YouthBuild AmeriCorps participants' employment gains. The completion of a high school diploma or equivalent not

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<sup>25</sup> The funder groups whose investment is included in this calculation are the federal government (i.e., AmeriCorps and other federal sources), state and local governments, and other non-government entities.

only leads to increased employment but also additional earnings. This analysis calculated that YouthBuild AmeriCorps participants who were unemployed pre-service but employed post-service experienced a \$26,000 increase in per-person pre-tax annual earnings, which stemmed from their improved employment.

- **Medium- and long-term accumulation of benefits.** In the short-term, the three ROI calculations are negative because only one year of post-program employment and earnings gains are factored in while the entire program cost is considered. Additionally, the short-term scenario does not include any lifetime benefits in terms of reduced spending on corrections, public assistance, and social insurance or increased tax revenue. As these benefits accumulate over time, the analysis shows positive returns. This is indicated by the ROI results in the medium- and long-term scenarios (15 and 30 years post-program, respectively).

Government funding serves as a catalyst for private funding of evidence-based social services programs. For the ROI calculations of 1) *total benefits per federal dollar* and 2) *total benefits per funder dollar*, AmeriCorps's requirement of match funding also contributed to the magnitude of outcomes. Federal government funding of the YouthBuild AmeriCorps program, specifically, serves as a catalyst for private and other government funding. This additional combined private and non-AmeriCorps federal government funding—amounting to \$8.9 million for YouthBuild AmeriCorps for the most recent program year—allowed the YouthBuild AmeriCorps program to enroll and serve more participants than otherwise would have been served under the federal funding alone. Though it may not impact the ROI, because it is a per unit metric, match funding leads to greater investment in the YouthBuild AmeriCorps program and thus to a greater impact as more individuals are served.

## Recommendations for Further Research

Future ROI studies for national and community service programs, such as YouthBuild AmeriCorps, can be strengthened in several ways.

**Recommendation 1: Determine the persistence of short- and long-term impacts for program participants.** The persistence of impacts, such as earnings, is often not measured in evaluations because they require long-term tracking. Although a scenario-based approach that accounts for variations in the persistence of impacts can be used, as was completed in this ROI analysis, rigorous research on the long-term impact of programming will enable AmeriCorps to determine a single value for ROI calculations and avoid relying on the scenario-based approach. For example, The Center for Youth and Communities (2019) did not measure whether YouthBuild AmeriCorps participants' employment was sustained over time. Data was instead collected anywhere from one to 2.25 years after program participation. Thus, instead of collecting outcome measures at a time that varies by program participant, grantees should track outcomes of interest at the same intervals, multiple times after program completion, to provide greater insight into the duration and consistency of benefits.

**Recommendation 2: Document outcomes using third-party data sources.**

Using third-party data, along with or in place of self-reported data, can also improve the accuracy of program outcome measurements. While self-reported data are easier to obtain—especially via the use of survey instruments—it has several disadvantages. Some answers may be exaggerated, respondents may not answer honestly, and response biases could affect results. AmeriCorps programs should—where possible—leverage data from third-party sources either to provide data for their program evaluation or to corroborate findings from self-reported data. For example, if degree completion data are of interest, such as in the case of this ROI analysis, data from the National Student Clearinghouse (NSC) could be used to verify which degrees YouthBuild AmeriCorps participants completed post-program. The Center for Youth and Communities (2019) included post-secondary education *enrollment* data specific to YouthBuild AmeriCorps participants. However, degree completion data was excluded. Thus, to estimate increases in post-secondary educational attainment, the analysis used third-party proxies. Were degree outcomes data from third-party data sources (like NSC) available, those data may make more precise ROI estimates possible.

**Recommendation 3: Quantify ripple effects.** Earnings impacts on program participants and AmeriCorps members likely have positive benefits for those individuals' families and surrounding communities. Rigorous research on those potential ripple effects would enable AmeriCorps to capture a broader array of benefits of this and other programs, which would be expected to result in an increased ROI. Specifically, the longitudinal impacts on program participants could be collected alongside the ripple effects their outcomes have on their families and communities to determine how long these indirect impacts are sustained after program participation or completion.

**Recommendation 4: Quantify Community Benefits Associated with Improved Housing.**

YouthBuild AmeriCorps participants' service work in home construction likely leads to savings in housing expenditures for households and results in other benefits. Data on those impacts would result in a more comprehensive ROI.

## Conclusion

Based upon these findings, investment in the YouthBuild AmeriCorps program results in favorable impacts across a variety of stakeholder groups under the long- and medium-term scenarios. Specifically, impacts are realized by YouthBuild AmeriCorps participants and the various levels of government.

The ROI results indicate that the medium- and long-term benefits realized by YouthBuild AmeriCorps participants and government outweigh the investment made by funders (e.g., private funders as well as federal, state, and local governments). Specifically, the combined return to YouthBuild AmeriCorps participants and government per federal dollar is \$10.05 under the medium-term scenario and \$17.97 under the long-term scenario.

When all funding (from the various levels of government and other funders) is considered, every \$1 in funding results in a return of \$5.39 under the medium-term scenario and \$9.58 under the long-term scenario.

Lastly, when considering the ROI to the federal government alone, the medium- and long-term scenario results are \$1.87 and \$3.37, respectively. This indicates that in the medium-term scenario, the federal government realizes a return of \$1.87 for every dollar invested and in the long-term scenario, the federal government realizes a return of \$3.37 for every dollar invested.

In the short-term scenario—where benefits for only one year post-program are included—the ROI results are all negative, indicating that costs outweigh the benefits in the first year after the program. A negative ROI in the first year post-program is common in programs where there is an initial one-time investment made and benefits accrue in the following years. This is because it often requires several years of benefits to recoup the initial investment and generate positive returns, as indicated in the results for the medium- and long-term scenarios. During the program, AmeriCorps members gain the experience, skills, and knowledge that result in future benefits, such as improved employment and wages, which can be sustained throughout their working years.

## Appendix A: Program Benefits, Forgone Benefits, and Program Costs Included in Return on Investment Calculations

In Table 12, the three columns on the right indicate by an “X” if the Program benefits, forgone benefits (opportunity cost), or program cost is included in the numerator or denominator of a return on investment (ROI) calculation.

**Table 12. Program Benefits, Forgone Benefits, and Program Costs Included in ROI Calculations**

Program Benefits, Forgone Benefits, and Program Cost			Total Benefits per Federal Dollar	Total Benefits per Funder Dollar	Federal Government Benefits per Federal Dollar
Program Benefits	Stakeholder Group	Data Sources	X indicates inclusion in the ROI numerator		
Increased earnings of YouthBuild AmeriCorps participants due to increased employment	YouthBuild AmeriCorps participant	<ul style="list-style-type: none"> <li>The Center for Youth and Communities (2019)</li> <li>YouthBuild</li> <li>Consumer Price Index (CPI) (U.S. Bureau of Labor Statistics, n.d.)</li> </ul>	X	X	—
Increased income tax revenue due to increased earnings of YouthBuild AmeriCorps participants	Federal and state governments	<ul style="list-style-type: none"> <li>The Center for Youth and Communities (2019)</li> <li>YouthBuild</li> <li>CPI (U.S. Bureau of Labor Statistics, n.d.)</li> <li>Tax rate data on Taxfoundation.org (2019 &amp; 2020)</li> </ul>	X	X	X
Increased Social Security and Medicare tax revenue due to increased earnings of YouthBuild AmeriCorps participants	Federal government	<ul style="list-style-type: none"> <li>The Center for Youth and Communities (2019)</li> <li>YouthBuild</li> <li>CPI (U.S. Bureau of Labor Statistics, n.d.)</li> <li>Social Security Administration (SSA) (2020)</li> </ul>	X	X	X



Program Benefits, Forgone Benefits, and Program Cost			Total Benefits per Federal Dollar	Total Benefits per Funder Dollar	Federal Government Benefits per Federal Dollar
Increased sales tax revenue due to increased earnings of YouthBuild AmeriCorps participants	State and local governments	<ul style="list-style-type: none"> <li>• The Center for Youth and Communities (2019)</li> <li>• YouthBuild</li> <li>• CPI (U.S. Bureau of Labor Statistics, n.d.)</li> <li>• Consumer Expenditure Survey (CEX) (U.S. Bureau of Labor Statistics, 2021)</li> <li>• Tax rate data on Taxfoundation.org (2020)</li> </ul>	X	X	—
Increased lifetime earnings due to increased educational attainment of YouthBuild AmeriCorps participants as a result of education awards	YouthBuild AmeriCorps participant	<ul style="list-style-type: none"> <li>• The Center for Youth and Communities (2019)</li> <li>• YouthBuild</li> <li>• AmeriCorps (n.d.)</li> <li>• Pell Institute (2011)</li> <li>• Pell Institute (2020)</li> <li>• Cataldi et al. (2018)</li> <li>• Hinz et al. (2017)</li> <li>• U.S. Bureau of Labor Statistics (2021)</li> <li>• NCES (2019)</li> <li>• NCES (2020)</li> <li>• Trostel (2015)</li> <li>• CPI (U.S. Bureau of Labor Statistics, n.d.)</li> </ul>	X	X	—

Program Benefits, Forgone Benefits, and Program Cost			Total Benefits per Federal Dollar	Total Benefits per Funder Dollar	Federal Government Benefits per Federal Dollar
Increased lifetime tax revenue due to increased educational attainment of YouthBuild AmeriCorps participants as a result of education awards	Federal, state, and local governments	<ul style="list-style-type: none"> <li>• The Center for Youth and Communities (2019)</li> <li>• YouthBuild</li> <li>• AmeriCorps (n.d.)</li> <li>• Pell Institute (2011)</li> <li>• Pell Institute (2020)</li> <li>• Cataldi et al. (2018)</li> <li>• Hinz et al. (2017)</li> <li>• U.S. Bureau of Labor Statistics (2021)</li> <li>• NCES (2019)</li> <li>• NCES (2020)</li> <li>• Trostel (2015)</li> <li>• CPI (U.S. Bureau of Labor Statistics, n.d.)</li> </ul>	X	X	X
Reduced spending on lifetime public assistance, corrections, and social insurance due to increased educational attainment of YouthBuild AmeriCorps participants	Federal, state, and local governments	<ul style="list-style-type: none"> <li>• The Center for Youth and Communities (2019)</li> <li>• YouthBuild</li> <li>• AmeriCorps (n.d.)</li> <li>• Pell Institute (2011)</li> <li>• Pell Institute (2020)</li> <li>• Cataldi et al. (2018)</li> <li>• Hinz et al. (2017)</li> <li>• U.S. Bureau of Labor Statistics (2021)</li> <li>• NCES (2019)</li> <li>• NCES (2020)</li> <li>• Trostel (2015)</li> <li>• CPI (U.S. Bureau of Labor Statistics, n.d.)</li> </ul>	X	X	X

Program Benefits, Forgone Benefits, and Program Cost			Total Benefits per Federal Dollar	Total Benefits per Funder Dollar	Federal Government Benefits per Federal Dollar
Increased tax revenue from education awards	Federal, state, and local governments	<ul style="list-style-type: none"> <li>The Center for Youth and Communities (2019)</li> <li>AmeriCorps (n.d.)</li> <li>YouthBuild</li> <li>Tax rate data on Taxfoundation.org (2019 &amp; 2020)</li> <li>SSA (2020)</li> </ul>	X	X	X
Forgone Benefits (Opportunity Costs)*	Stakeholder Group	Data Sources	X indicates inclusion in the ROI numerator		
Professional opportunity cost of forgone market wages for YouthBuild AmeriCorps participants	YouthBuild AmeriCorps participant	<ul style="list-style-type: none"> <li>YouthBuild</li> <li>Current Population Survey Annual Social and Economic (ASEC) Supplement (U.S. Census Bureau, n.d.)</li> <li>CPI (U.S. Bureau of Labor Statistics, n.d.)</li> </ul>	X	X	—
Professional opportunity cost of federal income, Social Security, and Medicare taxes on forgone market wages for YouthBuild AmeriCorps participants	Federal government	<ul style="list-style-type: none"> <li>YouthBuild</li> <li>ASEC (U.S. Census Bureau, n.d.)</li> <li>CPI (U.S. Bureau of Labor Statistics, n.d.)</li> <li>Tax rate data on Taxfoundation.org (2019)</li> <li>Social Security Administration (2020)</li> </ul>	X	X	X

Program Benefits, Forgone Benefits, and Program Cost			Total Benefits per Federal Dollar	Total Benefits per Funder Dollar	Federal Government Benefits per Federal Dollar
Professional opportunity cost of state income and sales taxes on forgone market wages for YouthBuild AmeriCorps participants	State and local governments	<ul style="list-style-type: none"> <li>YouthBuild</li> <li>ASEC (U.S. Census Bureau, n.d.)</li> <li>CPI (U.S. Bureau of Labor Statistics, n.d.)</li> <li>CEX (U.S. Bureau of Labor Statistics, 2021)</li> <li>Tax rate data on Taxfoundation.org (2020)</li> </ul>	X	X	—
Investment opportunity cost of investing total YouthBuild AmeriCorps funding in U.S. Treasury bonds	All funders	<ul style="list-style-type: none"> <li>YouthBuild</li> <li>Office of Management and Budget (OMB) (2020)</li> <li>U.S. Department of Treasury</li> </ul>	X	X	—
Investment opportunity cost of investing only federal YouthBuild AmeriCorps funding in U.S. Treasury bonds	Federal government	<ul style="list-style-type: none"> <li>YouthBuild</li> <li>OMB (2020)</li> <li>U.S. Department of Treasury</li> </ul>			X
<b>Program Cost</b>	<b>Payer</b>	<b>Data Sources</b>	<b>X indicates inclusion in the ROI denominator</b>		
AmeriCorps grant costs (excluding education awards provided to YouthBuild AmeriCorps participants)	Federal government (AmeriCorps)	YouthBuild	X	X	X
YouthBuild AmeriCorps participant expected education awards	Federal government (AmeriCorps)	<ul style="list-style-type: none"> <li>AmeriCorps (n.d.)</li> <li>YouthBuild</li> <li>Friedman et al. (2016)</li> </ul>	X	X	X

Program Benefits, Forgone Benefits, and Program Cost			Total Benefits per Federal Dollar	Total Benefits per Funder Dollar	Federal Government Benefits per Federal Dollar
Other federal government funding (not provided by AmeriCorps)	Federal government	YouthBuild	X*	X*	X*
State and local government funding	State and local governments	YouthBuild	—	X	—
Private funding	Non-government funders	YouthBuild	—	X	—

\* Opportunity costs are amounts that are reduced from total benefits realized across ROI calculations. Thus, they represent a negative value in the numerator. Please see the Calculating ROI section of Appendix B for further details.

## Appendix B: Additional Information on the Methodology

This appendix provides additional details on the methodology used for this study, as a supplement to the methodology section in the main report. It describes the steps used to calculate the return on investment (ROI), the results of interim calculations that contribute to the ROI calculations, and assumptions that underlie the analysis.

### Methodology Overview

Calculating the ROI for the YouthBuild AmeriCorps program included the following steps:

- Measuring and monetizing program benefits to YouthBuild AmeriCorps participants and the different levels of government
- Estimating Forgone Benefits (opportunity costs)
- Assessing program costs
- Calculating the ROI

This ROI analysis included only those benefits that could be reasonably monetized given the available data, and that likely would not have occurred without the YouthBuild AmeriCorps program.

Although YouthBuild AmeriCorps participants experience positive benefits from the YouthBuild AmeriCorps program in terms of increased employment and earnings (described below), available data do not establish how long these specific impacts are sustained over time. To address a range of possible durations for those benefits, three scenarios were developed for this ROI study:

- **Short-term.** This scenario assumes short-term earnings impacts. The assumption is that earnings impacts are limited to a single year after program exit. This scenario also assumes no lifetime benefits are realized.
- **Medium-term.** This scenario assumes a longer duration of earnings impacts. The assumption is that earnings impacts last 15 years. A 3 percent discount rate is applied each year to represent net present value in 2020 dollars.<sup>26</sup> This scenario also assumes only half of the net present value of lifetime benefits is realized.
- **Long-term.** This scenario assumes sustained earnings impacts throughout YouthBuild AmeriCorps participants' working years. The assumption is that earnings impacts last 30 years. A 3 percent discount rate is applied each year to represent net present value in 2020 dollars. This scenario also assumes the entire net present value of lifetime benefits is realized.

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<sup>26</sup> The Office of Management and Budget (1992) defines a discount rate as, "The interest rate used in calculating the present value of expected yearly benefits and costs" (p. 18). Regarding the 3 percent discount rate, see Office of Management and Budget (2003).

There are some differences between the three scenarios. One is the length of time that increased employment—and earnings associated with that employment—are sustained. The other is what portion of lifetime benefits, when applicable, are realized.<sup>27</sup> For each ROI calculation, three estimates using the three scenarios were developed, which is shown in greater detail in the Calculating ROI section.

## Measuring Program Benefits

The first step in calculating the ROI for the YouthBuild AmeriCorps program is to measure and monetize the program benefits. As a result of the YouthBuild AmeriCorps program, YouthBuild AmeriCorps participants and various levels of government benefit. These benefits were identified through an extensive literature review and data collection process. The methods used to measure benefits for each of these stakeholder groups are described below.

### ***Benefits to YouthBuild AmeriCorps Participants***

The YouthBuild AmeriCorps participants who provide services to and participate in the YouthBuild AmeriCorps program experience benefits due to their service and program participation. This analysis estimated the following benefits:

- Additional earnings from increased employment
- Additional lifetime earnings from increased educational attainment as a result of education awards

### **Additional Earnings from Increased Employment**

The findings from The Center for Youth and Communities (2019), which include YouthBuild AmeriCorps participants' employment and education outcomes post-program, were used to measure the impact of the program on YouthBuild AmeriCorps participants. The study found that of YouthBuild AmeriCorps program completers, 72.5 percent were placed in a job post-service. Moreover, the study authors provided supplemental data that indicated that of YouthBuild AmeriCorps program completers, 26.7 percent reported they were employed at some point during the six months prior to starting the program. The latter metric does not represent the employment rate of YouthBuild AmeriCorps participants immediately before program enrollment. However, it serves as a conservative proxy for this population's employment prior to participating in the program. Using the 26.7 percent as this population's pre-service employment rate in this ROI analysis assumes that if YouthBuild AmeriCorps participants were employed at a time during the six months before the program, they

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<sup>27</sup> These three scenarios consider varying durations of how long increased employment and earnings benefits last for YouthBuild AmeriCorps participants. They also consider varying durations for lifetime benefits that stem from the YouthBuild AmeriCorps program. For example, lifetime benefits in terms of decreased public assistance, social insurance, and corrections costs result from YouthBuild AmeriCorps participants' higher educational attainment post-service. The analysis estimates lifetime benefits differently in the three scenarios. Specifically, the net present value of the entire lifetime benefit is realized for the long-term scenario, half of the net present value of the lifetime benefit is realized for the medium-term scenario, and no lifetime benefit amount is realized for the short-term scenario.

would likely be able to secure a job without participating in the YouthBuild AmeriCorps program.

This ROI analysis used these outcomes to estimate the number of *additional* YouthBuild AmeriCorps participants employed as a result of the YouthBuild AmeriCorps program. Specifically, there were 699 YouthBuild AmeriCorps program completers during the September 2019 to August 2020 program year. To calculate the benefits of the YouthBuild AmeriCorps participants in terms of employment gains, the difference between the two aforementioned percentages (i.e., 45.8 percent) was applied to the number of YouthBuild AmeriCorps participants that completed the YouthBuild AmeriCorps program during the most recent program year. This calculation estimated the number of individuals employed after participating in the YouthBuild AmeriCorps program (i.e., 320 individuals who would not have been employed otherwise).

To monetize the benefits associated with YouthBuild AmeriCorps participants gaining employment, the analysis first calculated their average pre-tax annual earnings. YouthBuild provided ICF with the average hourly wage for YouthBuild AmeriCorps participants who were placed in a job 12 months after program completion (i.e., \$12.34/hour). This was representative of the most recent YouthBuild data available. Annualizing this metric represents YouthBuild AmeriCorps participants' average pre-tax annual earnings as shown in Table 13.<sup>28</sup>

**Table 13. Per-Person Annual Average Pre-tax and Post-tax Earnings for YouthBuild AmeriCorps Participants**

	Number of YouthBuild AmeriCorps Program Completers	Number Employed Post Program Due to Participation	Average Pre tax Annual Earnings	Average Post tax Annual Earnings
YouthBuild AmeriCorps Participants	699	320	\$25,667	\$21,674

Sources: The Center for Youth and Communities (2019) and YouthBuild

\*Post-tax annual earnings metrics exclude payroll taxes paid on earnings (i.e., federal and state income, Social Security, and Medicare taxes).

The analysis next calculated the aggregate post-tax additional earnings from the increased employment. The analysis applied the average post-tax annual earnings of \$21,674 to the 320 YouthBuild AmeriCorps participants employed as a result of the program. This increase in additional post-tax earnings was then spread over time depending on the scenario (e.g., short-, medium-, or long-term) to create a cumulative sum of post-tax earnings for these *additional* YouthBuild AmeriCorps participants who are employed as a result of the YouthBuild AmeriCorps program.

<sup>28</sup> This ROI analysis assumes the jobs obtained by YouthBuild AmeriCorps participants were full-time.



To avoid double counting, the per-person average *post-tax* annual earnings is used to calculate the direct benefit to YouthBuild AmeriCorps participants, rather than the average *pre-tax* annual earnings. The average post-tax annual earnings in Table 13 excludes payroll taxes (federal and state income, Social Security, and Medicare). These payroll taxes are counted as benefits to government and the specific rates used are described in more detail in the Benefits to Government section.

Based on these calculations, the cumulative additional post-tax earnings for the YouthBuild AmeriCorps participants for the three different scenarios—discounted in 2020 dollars using data from Office of Management and Budget (2003)—are shown in Table 14.

**Table 14. Cumulative Additional Post-tax Earnings due to Participation in the YouthBuild AmeriCorps Program by Scenario**

Scenario	Cumulative Additional Post tax Earnings due to Participation in YouthBuild AmeriCorps (2020\$)
Short-term	\$3,114,306
Medium-term	\$82,597,193
Long-term	\$137,967,382

Sources: The Center for Youth and Communities (2019), YouthBuild, and OMB (2003)

The Center for Youth and Communities (2019) did not track the timing of job placement of study participants. The authors noted to ICF that the interval between program completion to final data collection could have ranged from one to 2.25 years depending on the YouthBuild AmeriCorps participant. This analysis conservatively assumed that the YouthBuild AmeriCorps participants gained employment gradually over a 27-month (2.25 year) period. Specifically, of the 320 YouthBuild AmeriCorps participants who gained employed post-service, the analysis estimated that 142 found a job one year post-service, an additional 142 found a job two years post-service, and an additional 36 found a job after two years post-service. Namely, 142 YouthBuild AmeriCorps participants were employed one year post-service, 285 were employed two years post-service, and all 320 were employed at three years post-service. Because of this, additional earnings for the initial 142, the subsequent 142, and the remaining 36 YouthBuild AmeriCorps participants who became employed were not realized until one year, two years, and three years post-service, respectively. Since the short-term scenario only includes benefits realized one year post-service, additional earnings for only the initial 142 YouthBuild AmeriCorps participants for one year post-service—and the associated taxes from those earnings gains—are realized as noted in Table 14.

## **Additional Lifetime Earnings from Increased Educational Attainment as a Result of Education Awards**

The Center for Youth and Communities (2019) reports that 59.9 percent of YouthBuild AmeriCorps program participants completed the program and earned an education award. Because all YouthBuild AmeriCorps participants during the most recent program year either had a high school education or less prior to program entry, the analysis assumed participants that received an education award would only use it to pursue post-secondary education. Given this, the education award pays for some portion of YouthBuild AmeriCorps participants' increased post-secondary educational attainment, and the future earnings derived from that educational attainment is treated as a direct benefit to YouthBuild AmeriCorps participants. To calculate the portion of YouthBuild AmeriCorps participants' increased post-secondary educational attainment that is attributable to the YouthBuild AmeriCorps program, this analysis used cost data from the National Center for Education Statistics (NCES). Table 15 details the average total cost for each degree type, and the portion of the cost that the post-tax education award amount (i.e., \$5,299) represents (\$6,155<sup>29</sup> before taxes). The analysis used these percentages to estimate the lifetime benefits of post-secondary educational attainment that can be attributed to the education award. For instance, according to NCES (2020), the average annual cost of a public, in-state, four-year academic institution during the 2019 to 2020 academic year was \$20,532. This amounts to almost \$83,000 for four years if expressed in 2020 dollars. The \$5,299 post-tax education award only represents 6.4 percent of the cost of that degree, so the YouthBuild AmeriCorps program could only be credited with 6.4 percent of the completion of YouthBuild AmeriCorps participants' bachelor's degree post-service.

For additional earnings derived from YouthBuild AmeriCorps participants' increased employment, they were calculated annually and then discounted based on the short-term, medium-term, and long-term scenarios in net present 2020 dollars.

For additional earnings derived from YouthBuild AmeriCorps participants' increased post-secondary educational attainment—due to using education awards—Trostel (2015) did not provide data on how earnings accrue over time. Therefore, this analysis treated the increases in earnings as lifetime values expressed in 2020 dollars. The analysis assumed 100 percent of those lifetime earnings accrued by year 30 (i.e., in the long-term scenario), 50 percent accrued by year 15 (i.e., in the medium-term scenario), and nothing accrued one year post-program (i.e., in the short-term scenario).

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<sup>29</sup> This analysis used the 2020 to 2021 AmeriCorps education award amount (\$6,345) but discounts it to net present 2020 dollars using the Consumer Price Index. For more information about this education award, please see <https://americorps.gov/members-volunteers/segal-ameri-corps-education-award/find-out-more>.

**Table 15. Average Total Cost of Education and Portion Attributable to Education Award by Degree Type**

Degree Type <sup>30</sup>	Average Cost (2020\$)*	Percent of Degree Total Cost Covered by Post tax Education Award (%)
Technical Certificate	\$10,230	51.8%
Associate Degree	\$11,979	44.2%
Bachelor's Degree	\$82,949	6.4%
Graduate Degree	\$39,401	13.5%

Sources: AmeriCorps (n.d.), CPI, NCES (2019), NCES (2020)

\*Costs were provided for the 2019 to 2020 academic year by NCES (2020) for technical certificate, associate degree, and bachelor's degree types. Graduate degree type data for the 2018 to 2019 academic year was provided by NCES (2019). These costs are expressed in 2020 dollars since the post-tax education award amounts are in 2020 dollars.

To determine the future lifetime earnings (and later, the associated lifetime taxes, which are described in the Benefits to Government section) realized due to the use of the education award post-service, the analysis first determined the number of additional post-secondary degrees estimated to be completed by degree type. The Center for Youth and Communities (2019) reported that 12.8 percent of YouthBuild AmeriCorps participants who completed the YouthBuild AmeriCorps program enrolled in post-secondary education post-service. Thus, of the 699 program completers for the most recent year, about 89 are estimated to have enrolled in post-secondary education. Unfortunately, the evaluation did not parse out the degree programs these YouthBuild AmeriCorps program completers enrolled into. To approximate this, the analysis used survey results included in The Center for Youth and Communities (2019). In a survey, YouthBuild AmeriCorps participants were asked pre- and post-program how important going to different post-secondary education institutions was to them. The authors noted that answers of 3 or 4 on a 4-point scale were considered "important." The results found in the survey are enumerated in the second to fourth columns in Table 16. The difference between responses pre- versus post-program were used as proxies for increases in post-secondary education enrollment that were solely attributed to the YouthBuild AmeriCorps program.

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<sup>30</sup> Costs for a technical certificate include tuition, required fees, books, and supplies for a public, in-state, less-than-2-year program; costs for an associate degree include tuition, required fees, books, and supplies for a public, in-state, 2-year program; costs for a bachelor's degree include tuition, required fees, books, supplies, and on-campus housing for a public, in-state, 4-year program; costs for a graduate degree includes tuition and required fees for a public, in-state, 2-year graduate program.

**Table 16. Importance of Going to the Following Post-secondary Education Institutions Pre- versus Post-Program as Reported by YouthBuild AmeriCorps Participants**

Education Institution (Degree Received)	Pre Program (%)	Post Program (%)	Difference (%)	Redistribution (%)*
Technical School (Technical Certificate)	52.2%	70.6%	18.4%	26.7%
2-Year College (Associate Degree)	57.4%	76.4%	19.0%	27.6%
4-Year College (Bachelor's Degree)	50.9%	68.3%	17.4%	25.3%
Graduate School (Graduate Degree)	50.6%	64.7%	14.1%	20.5%
<b>Total</b>			<b>68.9%</b>	<b>100.0%</b>

Source: The Center for Youth and Communities (2019) and ICF

\*Numbers may not sum due to rounding.

The last column in Table 16 redistributes the results in the fourth column so the percentages sum to 100 percent. In other words, of the 89 YouthBuild AmeriCorps participants who enrolled in post-secondary education post-service, about 27 percent were estimated to enroll in a technical school, 28 percent were estimated to enroll in a 2-year college, 25 percent were estimated to enroll in a 4-year college, and 21 percent were estimated to enroll in a graduate degree program. Again, these percentage estimates are based on findings in The Center for Youth and Communities (2019).

While this estimates post-secondary education enrollment, post-secondary degree completion was not provided in the evaluation. Thus, the analysis leveraged graduation rate data from third-party sources for a population comparable to YouthBuild AmeriCorps participants—in terms of financial need, socioeconomic status, and first-generation status. Specifically, Hinz et al. (2017) found that the completion rate for a career technical education (CTE) credential for those that received a Pell grant was 26.3 percent. Pell Institute (2011) reported that attainment of an associate degree for low-income and first-generation students was 26.1 percent. Pell Institute (2020) found that the completion rate for a bachelor's degree for low-income and first-generation students was 21 percent. Lastly, Cataldi et al. (2018) reported that 43 percent of first-generation students who already had a bachelor's degree obtained a graduate degree.

These graduation rates coupled with other data points mentioned earlier are used to estimate the number of additional post-secondary degrees obtained that is attributable to the use of education awards received after participating and serving in the YouthBuild AmeriCorps program. Specifically, the data points listed in Table 17 are multiplied across to determine these additional degrees by degree type.

**Table 17. Estimates of the Number of Post-secondary Degrees Obtained With Using the Education Award by Degree Type**

Degree Type	YouthBuild AmeriCorps Program Completers Who Enrolled in Post secondary Education	Post secondary Degree Distribution from Error! Reference source not found. (%)	Percent of YouthBuild AmeriCorps Participants that Completed the Program and Earned an Education Award (%)	Graduation Rates from Third Party Sources (%)	Percent of Degree Total Cost Covered by Post tax Education Award (%)	Number of Degrees Obtained with Using the Education Award
Technical Certificate	89	26.7%	59.9%	26.3%	51.8%	1.95
Associate Degree	89	27.6%	59.9%	26.1%	44.2%	1.71
Bachelor's Degree	89	25.3%	59.9%	21.0%	6.4%	0.18
Graduate Degree	89	20.5%	59.9%	9.0% <sup>31</sup>	13.5%	0.13

Sources: The Center for Youth and Communities (2019), YouthBuild, AmeriCorps, Hinz et al. (2017), Pell Institute (2011), Pell Institute (2020), NCES (2018), NCES (2019), NCES (2020), CPI

Next, the difference in the additional lifetime pre-tax earnings from one degree type to the subsequent degree type was estimated using data provided by both Trostel (2015) and U.S. Bureau of Labor Statistics (2021), which is shown in the third column of Table 18 and expressed in 2020 dollars.<sup>32</sup> For instance, using Trostel (2015) data, the lifetime earnings in 2020 dollars of someone with an associate degree is about \$875,000, while that of someone with a bachelor's degree is almost \$1.3 million. The difference between these two metrics (roughly \$417,000 as show in Table 18) represents the additional lifetime earnings realized as a result of gaining a bachelor's degree if an associate degree was already completed. This process was completed for all post-secondary degree types to conservatively estimate the additional lifetime earnings realized by YouthBuild AmeriCorps participants due to an increase in post-secondary educational attainment. Trostel (2015) also included data on lifetime taxes paid which

<sup>31</sup> Since NCES (2018) reported that 43 percent of those that already had a bachelor's degree obtained a graduate degree, this analysis multiplied the 21 percent provided by Pell Institute (2020)—which represented the bachelor's degree completion rate for a population comparable to YouthBuild AmeriCorps participants—to the 43 percent to estimate the overall graduate degree completion rate.

<sup>32</sup> For a technical certificate, comparisons were made between metrics for a high school diploma and those of a technical certificate. For an associate degree, comparisons were made between metrics for a high school diploma and those for an associate degree. For a bachelor's degree, comparisons made were between metrics for an associate degree and those of a bachelor's degree. For a graduate degree, comparisons made were between metrics for a bachelor's degree and those of a master's degree.

was converted to 2020 dollars and then used to estimate the post-tax lifetime earnings that would be realized per additional degree received. Specifically, the lifetime taxes paid amounts were subtracted from the pre-tax additional lifetime earnings amounts to estimate the additional post-tax lifetime earnings, a direct benefit to YouthBuild AmeriCorps participants. These values are shown in the fifth column of Table 18.

To isolate the increase in additional lifetime earnings specific to participants using the education award, the number of YouthBuild AmeriCorps participants estimated to earn a post-secondary degree (due to using the education award) was multiplied by the additional post-tax lifetime earnings for each degree type. Thus, the additional post-tax lifetime earnings amounts are multiplied by the number of degrees attained due to YouthBuild AmeriCorps participants using the education award post-service to complete their post-secondary education. As noted in Table 18, the total additional post-tax lifetime earnings amount was roughly \$630,000 across all YouthBuild AmeriCorps participants who served and participated in the YouthBuild AmeriCorps program during the most recent program year. Of note, these post-tax lifetime earnings are *in addition to* the earnings derived from YouthBuild AmeriCorps participants' employment gains as described in the previous section. To reiterate, the earnings from YouthBuild AmeriCorps participants' increased employment differs depending on the scenario (i.e., short-term, medium-term, and long-term) since it's uncertain how long these earnings will persist. For the post-tax lifetime earnings—and all lifetime benefits in this ROI analysis—the entire amount is realized in the long-term, half of it is realized in the medium-term, and no amount is realized in the short-term.

**Table 18. Additional Earnings from YouthBuild AmeriCorps Participants' Use of the Education Award\***

Degree Type	Number of Degrees Obtained with Using the Education Award	Additional Pre tax Lifetime Earnings Per Degree Type (2020\$)	Additional Lifetime Taxes Paid Per Degree Type (2020\$)	Additional Post tax Lifetime Earnings Per Degree Type (2020\$)	Total Post tax Lifetime Earnings with Using the Education Award
Technical Certificate <sup>33</sup>	1.95	\$259,216	\$107,304	\$151,912	\$296,222
Associate Degree	1.71	\$271,036	\$120,490	\$150,546	\$256,912
Bachelor's Degree	0.18	\$416,996	\$201,594	\$215,402	\$39,114
Graduate Degree	0.13	\$461,413	\$174,460	\$286,953	\$38,224
<b>Total</b>					<b>\$630,472</b>

Sources: Trostel (2015) and U.S. Bureau of Labor Statistics (2021)

\*Numbers may not total due to rounding.

## **Benefits to Government**

### **State and Local Government**

State and local government benefits from:

- Additional state income tax revenue from YouthBuild AmeriCorps participants' increased earnings due to increased employment
- Additional lifetime state and local taxes due to YouthBuild AmeriCorps participants' increased post-secondary educational attainment<sup>34</sup>

<sup>33</sup> Trostel (2015) did not provide lifetime earnings, taxes paid, or cost data for the technical certificate degree type. Thus, the analysis imputed these values using the 'some college' estimates in Trostel (2015) and metrics from U.S. Bureau of Labor Statistics (2021). Specifically, the analysis took the percent difference between the median weekly earnings for someone who had an education level of 'some college' and 1) did have a technical certificate and 2) did not have a technical certificate. This percent difference was applied to the Trostel (2015) 'some college' estimates to approximate values for this degree type throughout the analysis.

<sup>34</sup> This benefit was calculated using lifetime tax revenue data from Trostel (2015). These values summed lifetime state income taxes, lifetime property taxes, and lifetime sales taxes by education level.

- Additional state income taxes from the education award received by these participants
- Additional state and local sales tax revenue from YouthBuild AmeriCorps participants' increased consumption due to increased employment
- Reduced lifetime spending on social insurance and corrections<sup>35</sup> due to the YouthBuild AmeriCorps participants' increased secondary and post-secondary educational attainment

**State income tax revenue.** To measure income tax revenue generation from increased employment for state governments (any local income taxes are not included), the additional pre-tax earnings of YouthBuild AmeriCorps participants that are solely attributed to the YouthBuild AmeriCorps program are taxed by a weighted, estimated proportional state income tax rate. This tax rate considers state-specific progressive tax brackets and standard deduction amounts. Based on the taxable income, the analysis estimated the proportional state income tax for each state as the amount of state income taxes paid per YouthBuild AmeriCorps participant divided by their pre-tax earnings. This analysis then calculated the weighted average of these state-specific tax rates—using these states' population from the 5-year estimates of the 2019 American Community Survey (U.S. Census Bureau, n.d.)—to estimate a weighted national tax rate (i.e., 2.5 percent). A weighted national tax rate was leveraged because YouthBuild AmeriCorps programs operate nationwide. Also, YouthBuild AmeriCorps participants may disperse to various locations following their service terms and continue to migrate over the course of their working years.

Additional tax revenue derived from YouthBuild AmeriCorps participants' increased employment and education awards was estimated using tax rates specific to each per-person monetary amount.

For additional tax revenue derived from YouthBuild AmeriCorps participants' increased post-secondary educational attainment—due to using education awards—Trostel (2015) did not provide specific tax rates. Therefore, this analysis treated the increases in tax revenue as lifetime values expressed in 2020 dollars. The analysis assumed 100 percent of those lifetime tax revenues accrued by year 30 (i.e., in the long-term scenario), 50 percent accrued by year 15 (i.e., in the medium-term scenario), and nothing accrued one year post-program (i.e., in the short-term scenario).

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<sup>35</sup> Reduced spending on public assistance due to YouthBuild AmeriCorps participants' increased secondary and post-secondary educational attainment is included as a federal government benefit, not a state and local government benefit. This is because public assistance includes programs funded at the federal-level (e.g., SNAP, TANF, etc.).



Lifetime state income tax revenue values are also provided by Trostel (2015) by education level. Based on the number of post-secondary degrees estimated to be obtained due to the use of the education award received after participating and serving in the YouthBuild AmeriCorps program, additional lifetime state income taxes are realized. Thus, the additional lifetime state income taxes paid values—informed by data from Trostel (2015)—were converted to 2020 dollars and then multiplied by the inferred number of post-secondary degrees obtained with using the education award, which are listed in the second column of Table 18 above.

State governments also receive state income taxes from the education awards YouthBuild AmeriCorps participants receive post-service. To calculate this, the analysis first estimated the pre-tax per-person education award amount in 2020 dollars (i.e., \$6,155)<sup>36</sup> and multiplied it by the number of YouthBuild AmeriCorps program participants that completed the program and earned an education award. The resulting product represents the pre-tax cumulative education award amount expected to be received by YouthBuild AmeriCorps participants. The portion of this value taxed by state income taxes was estimated using a weighted state income tax rate specific to the per-person education award amount (i.e., 2.3 percent).

**State and local sales tax revenue.** To measure sales tax revenue generation for state and local governments that stems from increased employment, a weighted state and local sales tax rate was applied to the amount of YouthBuild AmeriCorps participants' cumulative additional *post-tax* earnings that are available to be spent on taxable goods. To establish a weighted state and local sales tax rate, this analysis first summed the state sales tax rate and the average local sales tax rate for each state using data from Cammenga (2020). Then using 2019 data from the American Community Survey (U.S. Census Bureau, n.d.), these state-level combined state and local sales tax rates were weighted based on the population of each state. The resulting weighted average sales tax rate used in this analysis was 7.43 percent.

To estimate the amount of YouthBuild AmeriCorps participants' additional post-tax earnings as a result of improved employment that was spent on taxable goods, data from the Consumer Expenditure Survey (U.S. Bureau of Labor Statistics, 2021) were used. These data show the amount of spending on a number of different goods and services by national consumers across several different pre-tax income brackets.<sup>37</sup> The proportion of earnings that is spent on taxable goods (such as alcoholic beverages, housekeeping supplies, apparel, etc.) was then calculated for consumers with incomes that matched the per-person average pre-tax earnings of YouthBuild AmeriCorps

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<sup>36</sup> This analysis used the 2020 to 2021 AmeriCorps education award amount (\$6,345) but discounts it to net present 2020 dollars using the Consumer Price Index. For more information about this education award, please see <https://americorps.gov/members-volunteers/segal-ameri-corps-education-award/find-out-more>.

<sup>37</sup> To calculate the estimated taxable expenditures, Consumer Expenditure Survey (CES) Table 1203 was used from U.S. Bureau of Labor Statistics (2021). This table lists the annual expenditure means by pre-tax income tax brackets. Thus, the pre-tax earnings of YouthBuild AmeriCorps participants were used instead of their post-tax earnings to calculate this metric. Please visit this site for more details: <https://www.bls.gov/cex/tables/calendar-year/mean-item-share-average-standard-error.htm#cu-income>.

participants. This value was 49.1 percent. This proportion was then applied to YouthBuild AmeriCorps participants' cumulative additional *post-tax* earnings to calculate the post-tax monetary amount they spend on taxable goods. Then the sales tax rate (i.e., 7.43 percent) was applied to estimate the resulting sales tax revenues that go to state and local governments due to participants' increased employment post-service.

Trostel (2015) also provides additional lifetime state and local sales tax values by education level. Using these values, the analysis calculated the additional sales tax revenue realized by state and local governments as a result of YouthBuild AmeriCorps participants using their education award to achieve higher post-secondary educational attainment post-service. These values represent a direct benefit to state and local governments in the form of increased tax revenue.

**State and local government cost savings.** State and local governments also benefit from the YouthBuild AmeriCorps program through lifetime savings in social insurance and corrections—as reported in Trostel (2015)—due to the increase in their secondary and post-secondary educational attainment after program exit. Of note, social insurance includes unemployment insurance and workers' compensation. To calculate these lifetime non-federal government savings, the analysis first determined the number of additional high school diplomas or equivalencies (i.e., secondary education credentials) obtained upon completion of the YouthBuild AmeriCorps program. The Center for Youth and Communities (2019) found that of YouthBuild AmeriCorps program completers that did not have a high school diploma or equivalency pre-service, 67.8 percent obtained one of these secondary credentials post-service. YouthBuild indicated that for the most recent program year, 651 YouthBuild AmeriCorps participants completed the program and did not have a secondary education credential prior to program entry. Thus, multiplying 651 by 67.8 percent estimated the number of additional individuals who completed their secondary education due to the YouthBuild AmeriCorps program (i.e., 441). Additionally, this analysis calculated the number of post-secondary degrees earned due to the use of the education award received post-service (see the second column in Table 17). The analysis then estimated the decrease in social insurance and corrections costs (and thus savings) from one education level to the subsequent education level using data from Trostel (2015) and then multiplied these monetary amounts by the number of additional secondary credentials or post-secondary degrees estimated to be obtained.<sup>38</sup>

To determine what portion of this differential represents lifetime cost savings to state or local governments versus the federal government, a different method was employed for each of these cost savings areas. For social insurance, 50 percent of lifetime unemployment insurance cost savings and all the lifetime cost savings for workers' compensation are apportioned to state and local governments (Oswald, 2018). Regarding reductions in lifetime corrections spending, the portion between the federal and state or local governments was determined based on data from Hyland (2015).

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<sup>38</sup> For a high school diploma, comparisons were made between metrics for less than a high school diploma and those of a high school diploma. The other education level comparisons used are listed in footnote 30.

Specifically, this report found that 8.4 percent of U.S. correction costs is paid by the federal government and the remaining 91.6 percent is paid by state and local governments. Therefore, almost 92 percent of the lifetime cost savings in corrections due to YouthBuild AmeriCorps participants' secondary and post-secondary education gains post-service are allocated to state and local governments.

## **Federal Government**

The federal government benefits from:

- Additional federal income, Social Security, and Medicare tax revenue from YouthBuild AmeriCorps participants' increased earnings due to increased employment
- Additional federal income, Social Security, and Medicare taxes from the education award received by these participants
- Additional lifetime federal taxes due to YouthBuild AmeriCorps participants' increased post-secondary educational attainment
- Reduced lifetime spending on public assistance, social insurance, and corrections due to the YouthBuild AmeriCorps participants' increased secondary and post-secondary educational attainment

**Federal income tax revenue:** To measure federal income tax revenue from employment, the additional pre-tax earnings of YouthBuild AmeriCorps participants that are solely attributed to the YouthBuild AmeriCorps program—as well as the pre-tax cumulative education awards expected to be received by participants—are taxed by a federal income tax rate. The rates used are estimated proportional tax rates that consider the standard deductions and progressive tax brackets specific to federal income taxes as provided by El-Sibaie (2019). To reiterate, an estimated proportional tax rate equals the total amount of taxes estimated to be paid divided by the pre-tax amount of the value to be taxed (e.g., per-person average pre-tax earnings). In this analysis, the tax rate used for YouthBuild AmeriCorps participants' additional pre-tax earnings was 5.4 percent while that for the pre-tax cumulative education award amount was 4.0 percent. Different tax rates used were because they were specific to the per-person pre-tax earnings and education award amounts, respectively.

For the additional lifetime earnings of YouthBuild AmeriCorps participants that is based on their increase in post-secondary educational attainment—fueled by the use of the education award—Trostel (2015) provides additional lifetime federal income tax values. These values are used to calculate the additional income tax revenue realized by the federal government due to participants' post-secondary education gains.

**Social Security and Medicare tax revenue:** Social Security and Medicare tax revenue are measured as fiscal gains as a result of the additional pre-tax earnings of YouthBuild AmeriCorps participants from their increased employment and due to the pre-tax cumulative amount in education awards expected to be received by YouthBuild AmeriCorps participants. However, tax rates specific to each revenue source are used. Social Security and Medicare use flat tax rates, 6.2 percent and 1.45 percent, respectively; thus, these rates are applied to the additional pre-tax earnings of

YouthBuild AmeriCorps participants to calculate the additional amount of revenue the federal government receives. These same rates are also applied to the pre-tax cumulative education award amount expected to be received by YouthBuild AmeriCorps participants to calculate additional tax revenue.

Moreover, lifetime Social Security tax values are provided by Trostel (2015) by education level. The analysis used these values to estimate the additional lifetime Social Security tax revenue realized by the federal government as a result of YouthBuild AmeriCorps participants using their education award to complete different post-secondary education degree types post-service.

**Federal government cost savings:** The federal government realizes cost savings in public assistance, social insurance, and corrections due to the increased secondary and post-secondary educational attainment of YouthBuild AmeriCorps participants after program exit. Specifically, the number of additional secondary education credentials and post-secondary degrees estimated to be earned by YouthBuild AmeriCorps participants post-service as well as data from Trostel (2015) were used to calculate the federal government portion of lifetime cost savings on social insurance (which is comprised of worker's compensation and unemployment insurance, as noted earlier), public assistance (e.g., SNAP, Medicaid, TANF, etc.), and corrections.

Table 19 shows the lifetime costs to the federal versus the state and local governments for each of these areas—where applicable—by education level. The differences in these lifetime costs from one education level to the next represent cost savings per degree obtained.

**Table 19. Government Lifetime Costs from Increased Educational Attainment Level per Individual's Lifetime\***

Source of Government Saving	Less than High School Diploma (2012\$)	High School Diploma (2012\$)	Technical Certificate (2012\$)**	Associate Degree (2012\$)	Bachelor's Degree (2012\$)	Graduate Degree (2012\$)
<b>Public Assistance</b>	<b>\$95,454</b>	<b>\$54,155</b>	<b>\$34,066</b>	<b>\$31,803</b>	<b>\$14,480</b>	<b>\$9,394</b>
<b>Social Insurance</b>	<b>\$6,773</b>	<b>\$9,584</b>	<b>\$8,466</b>	<b>\$8,209</b>	<b>\$5,863</b>	<b>\$4,732</b>
Federal	\$2,902	\$3,964	\$3,221	\$3,570	\$2,660	\$2,090
State/Local	\$3,871	\$5,620	\$5,245	\$4,639	\$3,204	\$2,643
<b>Corrections</b>	<b>\$53,079</b>	<b>\$8,488</b>	<b>\$4,014</b>	<b>\$4,055</b>	<b>\$1,190</b>	<b>\$725</b>
Federal	\$4,459	\$713	\$300	\$341	\$100	\$61
State/Local	\$48,620	\$7,775	\$3,713	\$3,714	\$1,090	\$664

Sources: Trostel (2015) and U.S. Bureau of Labor Statistics (2021)

\*Numbers may not sum due to rounding.

\*\*The technical certificate degree type values were imputed using Trostel (2015) and U.S. Bureau of Labor Statistics (2021) data.

As mentioned earlier, the analysis estimated an additional 441 YouthBuild AmeriCorps participants completed a secondary credential as a result of the YouthBuild AmeriCorps program. Moreover, the analysis estimated YouthBuild AmeriCorps participants obtained an additional 1.95 technical certificates, 1.71 associate degrees, 0.18 bachelor's degrees, and 0.13 graduate degrees post-service. To conservatively calculate the federal government's lifetime savings associated with these education gains, the analysis calculated differences between the public assistance, federal social insurance, and federal corrections lifetime costs for these education levels and those that precede them expressed in 2020 dollars. These values are then multiplied by the number of additional secondary credentials and post-secondary degrees obtained—where appropriate—to represent the total cost savings realized by the federal government due to the YouthBuild AmeriCorps program. As previously mentioned when discussing the state and local governments' allocation of the reduction in lifetime social insurance and corrections expenditures, the federal government receives 50 percent of the lifetime cost savings in unemployment insurance (part of social insurance; Oswald, 2018), and over 8 percent of the lifetime cost savings in corrections (Hyland, 2015). These federal government savings are shown in Table 21.

Table 20 shows the tax rates that were applied to YouthBuild AmeriCorps participants' additional pre-tax and post-tax earnings (which were derived from increased employment), depending on the type of revenue being calculated. It also shows the tax rates used for the pre-tax cumulative education award amount expected to be received by YouthBuild AmeriCorps participants upon program completion.

**Table 20. 2020 Tax Rates and Ratio of Taxable Expenditures for YouthBuild AmeriCorps Participants' Earnings and Education Awards**

Metric	Rate for Additional Earnings (%)	Rate for Education Award (%)	Notes
Estimated Proportional Federal Income Tax	5.43%	3.99%	<ul style="list-style-type: none"> <li>Tax rates are used which consider the progressive tax brackets and standard deductions specific to federal income taxes.</li> <li>These rates are dependent on and applied to the pre-tax value of each metric being taxed.</li> </ul>
Estimated Proportional State Income Tax	2.47%	2.26%	<ul style="list-style-type: none"> <li>Tax rates are used which consider the progressive tax brackets and standard deductions specific to each state's income taxes. Each state's tax rate is weighted based on the state's population and summed to estimate a weighted national average.</li> <li>These rates are dependent on and applied to the pre-tax value of each metric being taxed.</li> </ul>

Metric	Rate for Additional Earnings (%)	Rate for Education Award (%)	Notes
Social Security Tax	6.20%	6.20%	<ul style="list-style-type: none"> <li>• Social Security tax rate for employees and employers.</li> <li>• These rates are applied to the pre-tax value of each metric being taxed.</li> </ul>
Medicare Tax	1.45%	1.45%	<ul style="list-style-type: none"> <li>• Medicare tax rate for employees and employers.</li> <li>• These rates are applied to the pre-tax value of each metric being taxed.</li> </ul>
Sales Tax	7.43%	N/A	<ul style="list-style-type: none"> <li>• The combined state and average local tax rate for each state was summed and weighted based on states' population to calculate a national weighted average sales tax rate.</li> <li>• The rate is applied to the additional post-tax earnings of participants.</li> </ul>
Ratio of Taxable Expenditures per National Consumer	49.15%	N/A	<ul style="list-style-type: none"> <li>• Percent of post-tax earnings spent on taxable goods and services that is used to calculate sales tax from post-tax earnings.</li> <li>• Ratio is dependent on the pre-tax value of the additional earnings of participants.</li> </ul>

Sources: Cammenga (2020), Social Security Administration (2020), Consumer Expenditures Survey (U.S. Bureau of Labor Statistics, 2021), and El-Sibaie (2019)

### **Summary of Benefits to Government**

Table 21 shows the amount of tax revenue generated and savings in expenditures for state and local versus the federal government that are solely credited to the YouthBuild AmeriCorps program and calculated using the methods described above. These government revenue and savings amounts are benefits that are included in the three ROI calculations and they are derived from YouthBuild AmeriCorps participant impacts.

**Table 21. State/Local and Federal Government Benefits by Stakeholder Group and by Scenario**

Benefit Type	Benefit (2020\$)*		
	Short term	Medium term	Long term
<b>State/Local Government Benefits</b>	<b>\$263,148</b>	<b>\$15,062,301</b>	<b>\$28,274,057</b>
State Income Tax Revenue from Education Awards* (Tax rate: 2.3%)	\$58,125	\$58,125	\$58,125
State Income Tax Revenue from Employment (Tax rate: 2.5%)	\$91,233	\$2,419,658	\$4,041,710

Benefit Type	Benefit (2020\$)*		
	Short term	Medium term	Long term
State and Local Sales Tax Revenue from Employment (Tax rate: 7.43%)	\$113,790	\$3,017,917	\$5,041,020
State Income, Sales, and Property Taxes from Post-secondary Educational Attainment (Lifetime)	\$-	\$65,683	\$131,366
Savings in Reduced Social Insurance and Corrections Spending from Secondary and Post-secondary Educational Attainment (Lifetime)	\$-	\$9,500,918	\$19,001,835
<b>Federal Government Benefits</b>	<b>\$782,437</b>	<b>\$23,992,231</b>	<b>\$43,466,256</b>
Federal Income Tax Revenue from Education Awards** (Tax rate: 4.0%)	\$102,802	\$102,802	\$102,802
Social Security and Medicare Tax Revenue from Education Awards* (Tax rate: 7.65%)	\$197,137	\$197,137	\$197,137
Federal Income Tax Revenue from Employment (Federal income tax rate: 5.4%)	\$200,363	\$5,314,003	\$8,876,320
Social Security and Medicare Tax Revenue from Employment (Tax rate: 7.65%)	\$282,135	\$7,482,740	\$12,498,900
Federal Income Tax Revenue from Post-secondary Educational Attainment (Lifetime)	\$-	\$93,134	\$186,268
Social Security Tax Revenue from Post-secondary Educational Attainment (Lifetime)	\$-	\$78,535	\$157,070
Savings in Reduced Social Insurance, Corrections, and Public Assistance Spending from Secondary and Post-secondary Educational Attainment (Lifetime)	\$-	\$10,723,880	\$21,447,759
<b>Total</b>	<b>\$1,045,585</b>	<b>\$39,054,532</b>	<b>\$71,740,313</b>

\*Numbers may not sum due to rounding.

\*\*Education awards are one-time taxable payments. The resulting tax revenue does not vary by scenario.

Of note, minimal tax revenue is generated from YouthBuild AmeriCorps participants' additional earnings—that stem from increased employment—in the short-term scenario. This is because employment gains are not fully realized for all YouthBuild AmeriCorps participants who gain employment until three years after program exit. For additional

information on this, please reference the Additional Earnings from Increased Employment section in this appendix.

## Measuring Forgone Benefits (Opportunity Costs)

The analysis included two types of forgone benefits, referred to as opportunity costs, in the three ROI calculations to conservatively estimate the return of the YouthBuild AmeriCorps program: a professional opportunity cost to YouthBuild AmeriCorps participants and an investment opportunity cost to funders. Each of these forgone benefits is subtracted from the total program benefits (shown above) in each of the ROI calculations. The methodologies used to calculate these two forgone benefits (opportunity costs) are described below.

### ***Forgone Benefits from Professional Opportunity Cost to YouthBuild AmeriCorps Participants***

There is a forgone benefit (professional opportunity cost) to YouthBuild AmeriCorps participants for their period of national service, during which they could have otherwise been working and earning higher pay. This includes both the forgone post-tax earnings of YouthBuild AmeriCorps participants for their service term and the forgone taxes associated with those lost earnings. To estimate this forgone benefit, the analysis first used the demographic distribution of YouthBuild AmeriCorps participants for the most recent program year—in terms of gender, race/ethnicity, economically disadvantaged status, and pre-service highest level of education—and data from the Current Population Survey's Annual Social and Economic (ASEC) Supplement for March 2019 to estimate the weighted unemployment rate for this population (i.e., 22.3 percent). This represents how many YouthBuild AmeriCorps participants would have been unemployed if they did *not* participate in the YouthBuild AmeriCorps program. This analysis then used this group's weighted unemployment rate to determine its weighted employment rate (i.e., 77.7 percent). Then the 77.7 percent was multiplied by the number of YouthBuild AmeriCorps program completers for the most recent program year (i.e., 699). The product indicates that, based on their demographic and socioeconomic characteristics, 543 YouthBuild AmeriCorps program completers would have been employed *without* the YouthBuild AmeriCorps program. These values are shown in Table 22.



**Table 22. Forgone Earnings of YouthBuild AmeriCorps Participants for a Service Term**

Stakeholder	YouthBuild AmeriCorps Program Completers	Weighted Employment Rate (%)	Number of YouthBuild AmeriCorps Participants Employed Without Program	Per Person Average Pre tax Earnings (\$)	Per Person Average Post tax Earnings (\$)	Total Post tax Earnings Forgone
YouthBuild AmeriCorps Participants	699	77.7%	543	\$20,360	\$17,763	\$9,742,868

Sources: YouthBuild and ASEC (U.S. Census Bureau, n.d.)

The analysis then estimated what each YouthBuild AmeriCorps participant would have earned (both pre- and post-tax) if they had *not* participated in the YouthBuild AmeriCorps program. The analysis began by weighting average hourly wage data from ASEC based on YouthBuild AmeriCorps participants' demographic composition. The resulting weighted pre-service average hourly wage for this population was \$9.92. Annualizing this metric estimates what the average YouthBuild AmeriCorps participant's pre-tax earnings would have been, absent the YouthBuild AmeriCorps program (shown in the fifth column of Table 22). Applying the appropriate federal income, state income, Social Security, and Medicare tax rates—which were based on participants' per-person pre-tax earnings amount—yields the per-person average post-tax earnings. Multiplying this average post-tax earnings estimate by the estimated number of YouthBuild AmeriCorps participants who would have been employed regardless of participation in YouthBuild AmeriCorps (i.e., 543) resulted in the aggregate post-tax earnings this population would forgo due to serving in YouthBuild AmeriCorps for one year. This value is shown in the last column of Table 22.

The second portion of this professional opportunity cost was the forgone taxes associated with the earnings of YouthBuild AmeriCorps participants lost for this year of service. Federal income, state income, Social Security, and Medicare taxes specific to the per-person average pre-tax earnings amount were calculated. Specifically, the federal and state income tax rates used were 4.0 and 2.3 percent, respectively. The analysis also estimated the sales taxes lost based on the per-person post-tax earnings forgone by the YouthBuild AmeriCorps participants. Using data from the Consumer Expenditure Survey (U.S. Bureau of Labor Statistics, 2021), the analysis estimated that based on the per-person average pre-tax earnings of YouthBuild AmeriCorps participants prior to program entry (i.e., \$20,360), 61.1 percent of their income would have been spent on taxable goods. This percentage was first applied to the total post-tax earnings forgone by YouthBuild AmeriCorps participants. Then the weighted combined state and local sales tax rate (i.e., 7.43 percent)—used earlier in this analysis to calculate government benefits—was applied to represent the resulting sales tax revenue lost due to participants serving in the YouthBuild AmeriCorps program instead of working. The totals for these taxes and the tax rates used are listed in Table 23.

**Table 23. Forgone Taxes Associated with the Forgone Earnings of YouthBuild AmeriCorps Participants for a Service Term**

Forgone Taxes	Taxes Forgone (2020\$)*
<b>Federal Forgone Taxes (i.e., Federal Professional Opportunity Cost)</b>	<b>\$1,316,993</b>
Federal Income Taxes (Tax rate: 4.0%)	\$451,390
Social Security and Medicare Taxes (Tax rate: 7.65%)	\$865,604
<b>Non-Federal Forgone Taxes</b>	<b>\$698,128</b>
State Income Taxes (Tax rate: 2.3%)	\$255,221
Sales Taxes (Tax rate: 7.43%)	\$442,907

\*Numbers may not sum due to rounding.

In the *federal government benefits per federal dollar* ROI calculation, only federal government (not total) benefits are included. Because of this only federal components of the professional opportunity cost are subtracted from all federal government benefits—realized due to the YouthBuild AmeriCorps program—in this ROI calculation. The parts of the professional opportunity cost subtracted from these total federal government benefits include the forgone federal income taxes (i.e., \$451,390) and the forgone Social Security and Medicare taxes (i.e., \$865,604). The sum of these two values is called the federal professional opportunity cost. The sum of all the values listed in Table 23 and the forgone post-tax earnings of YouthBuild AmeriCorps participants is called the total professional opportunity cost. These naming conventions are referenced in the *Calculating ROI* section.

### **Forgone Benefit from the Investment Opportunity Cost to Funders**

The forgone benefits from the investment opportunity cost estimates the expected forgone return if funds used to support the activities and positions of YouthBuild AmeriCorps participants during the most recent program year were invested in U.S. Treasury bonds instead. The rates of return for U.S. Treasury bonds provide a market-based estimate of return for low-risk investments. An investment opportunity cost for the YouthBuild AmeriCorps program is calculated for two different funding streams: 1) all funding (used in calculating the *total benefits per funder dollar* ROI calculation) and 2) only federal funding (used in calculating the *total benefits per federal dollar* and *federal government benefits per federal dollar* ROI calculations).

To calculate these forgone accrued interest values, the analysis first matched 2019 real interest rates provided by Office of Management and Budget (2020) to each of the scenarios included in this ROI analysis. The analysis used 2019 real interest rates for U.S. Treasury bonds because the YouthBuild AmeriCorps program year analyzed began in 2019. The real interest rate for the 3-year maturity was used for the short-term scenario, the average between the 10-year and 20-year maturity rates was used as the

rate for the medium-term scenario, and the 30-year maturity rate was used for the long-term scenario. These real interest rates were 1.3, 1.45, and 1.5 percent, respectively. Also, the number of years elapsed on these U.S. Treasury bonds was set equal to the number of years the different scenarios assumed YouthBuild AmeriCorps participants' employment and earnings gains were sustained. These values are 1 year, 15 years, and 30 years for the short-, medium-, and long-term scenarios, respectively. Given that U.S. Treasury bonds compound bi-annually (Department of Treasury, n.d.), the formula used to calculate the forgone accrued interest for each of the three scenarios for the two funding streams is listed in Figure 2, where  $A$  equals the forgone accrued interest (i.e., the investment opportunity cost),  $P$  equals the amount of one of the funding streams,  $r$  equals the 2019 real interest rate, and  $t$  equals the number of years elapsed.

**Figure 2. Compound Interest Formula Used to Calculate Investment Opportunity Cost**

$$A = P \left( 1 + \frac{r}{2} \right)^{t*2} - P$$

Based on this formula, the forgone benefit from the investment opportunity cost calculated by scenario and funding stream are listed in Table 24, along with their associated inputs. The forgone accrued interest amounts for all funding are called the total investment opportunity costs while that for federal funding only are called the federal investment opportunity costs. These naming conventions are referenced in the Calculating ROI section.

**Table 24. Forgone Benefits from the Investment Opportunity Cost Calculation by Scenario and Funding Stream**

Metric	Short Term		Medium Term		Long Term	
	All Funding	Federal Funding Only	All Funding	Federal Funding Only	All Funding	Federal Funding Only
Real Interest Rate	1.30%		1.45%		1.50%	
Years Elapsed	1		15		30	
Funding Amount	\$19,572,480	\$10,712,164	\$19,572,480	\$10,712,164	\$19,572,480	\$10,712,164
Forgone Accrued Interest	\$255,269	\$139,711	\$4,736,355	\$2,592,242	\$11,071,781	\$6,059,668

## Measuring Program Costs

Table 25 shows the costs of the YouthBuild AmeriCorps program—including only those that support the activities and positions of YouthBuild AmeriCorps participants—by funding source. AmeriCorps is the leading funder for the YouthBuild AmeriCorps program, covering more than half of the program's annual operating costs given that it supplies the AmeriCorps State and National grant and the expected education awards.<sup>39</sup> Other non-AmeriCorps funders matched 84 percent of AmeriCorps's contribution for the most recently completed program year. That matched amount represented 46 percent of total YouthBuild AmeriCorps program funding for the year.

**Table 25. Funding Sources and Amounts for YouthBuild AmeriCorps (September 2019–August 2020)**

Funding Source	Amount (\$)	Percent of Total (%)
AmeriCorps State & National Grant	\$8,068,367	41.2%
Expected Education Awards	\$2,576,958	13.2%
Match Federal Funding	\$66,839	0.3%
<b>Total Federal Government Funding</b>	<b>\$10,712,164</b>	<b>54.7%</b>
Match State & Local Government Funding	\$4,661,442	23.8%
Match Private Funding	\$4,198,874	21.5%
<b>Total Non Federal Government Funding</b>	<b>\$8,860,316</b>	<b>45.3%</b>
<b>Grand Total</b>	<b>\$19,572,480</b>	<b>100.0%</b>

Source: YouthBuild

## Calculating ROI

To complete the three ROI calculations for the YouthBuild AmeriCorps program, the sum of applicable program benefits is reduced by the forgone benefits from the professional and investment opportunity costs (where appropriate) and then compared to the cost of the program. As described previously, these three ROI calculations are calculated for each of the three scenarios: short-term, medium-term, and long-term.

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<sup>39</sup> The education award comes from the National Service Trust. This is a line-item in AmeriCorps's annual budget approved by Congress every year. Thus, the expected education award amounts to be realized by YouthBuild AmeriCorps participants post-service is grouped with the AmeriCorps State and National grant as both being supplied by AmeriCorps. For more information please reference this link: [https://americorps.gov/sites/default/files/documents/CNCS%20FY%202021%20Congressional%20Budget%20Justification%20w%20IG%20Message%20%28Final%29\\_508.pdf](https://americorps.gov/sites/default/files/documents/CNCS%20FY%202021%20Congressional%20Budget%20Justification%20w%20IG%20Message%20%28Final%29_508.pdf).

Since two of the calculations include benefits to society (e.g., YouthBuild AmeriCorps participants), the results are expressed as cost–benefit ratios, while maintaining the ROI terminology. Specifically, these ratios take the form of the sum of monetized benefits over the sum of applicable program costs. The ROIs expressed as cost–benefit ratios in this study can be interpreted as the amount of dollars returned for every \$1.00 of investment (or program cost).<sup>40</sup>

The formulas used to calculate each of the three ROIs are shown below:

$$\begin{array}{l} \text{Total} \\ \text{Benefits per} \\ \text{Federal} \\ \text{Dollar} \end{array} = \frac{\begin{array}{l} (\text{Benefits to YouthBuild AmeriCorps Participants} + \text{Benefits to Government}) - \\ (\text{Forgone Benefits from the Total Professional Opportunity Cost} + \text{Forgone Benefits} \\ \text{from the Federal Investment Opportunity Cost}) \end{array}}{\begin{array}{l} (\text{AmeriCorps Federal Funding} + \text{Match Federal Funding}) \end{array}}$$

$$\begin{array}{l} \text{Total} \\ \text{Benefits per} \\ \text{Funder} \\ \text{Dollar} \end{array} = \frac{\begin{array}{l} (\text{Benefits to YouthBuild AmeriCorps Participants} + \text{Benefits to Government}) - \\ (\text{Forgone Benefits from the Total Professional Opportunity Cost} + \text{Forgone Benefits} \\ \text{from the Total Investment Opportunity Cost}) \end{array}}{\begin{array}{l} (\text{AmeriCorps Federal Funding} + \text{Match Federal Funding} + \text{Non-federal Match} \\ \text{Funding}) \end{array}}$$

$$\begin{array}{l} \text{Federal} \\ \text{Government} \\ \text{Benefits per} \\ \text{Federal Dollar} \end{array} = \frac{\begin{array}{l} (\text{Benefits to the Federal Government}) - (\text{Forgone benefits from the Federal} \\ \text{Professional Opportunity Cost} + \text{Forgone benefits from the Federal Investment} \\ \text{Opportunity Cost}) \end{array}}{\begin{array}{l} (\text{AmeriCorps Federal Funding} + \text{Match Federal Funding}) \end{array}}$$

Tables 26, 27, and 28 show the total benefits, opportunity costs, program costs, and ROI results for each scenario.

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<sup>40</sup> ROIs can be expressed in percentages or as ratios, such as in this study. Although not shown as a ratio in the results, the ROIs in this study show the amount of return for every \$1 invested.

**Table 26. ROI Calculations for Short-Term Scenario**

Components	Total Benefits per Federal Dollar (2020\$)	Total Benefits per Funder Dollar (2020\$)	Federal Government Benefits per Federal Dollar (2020\$)
Total Program Benefits	\$4,159,891	\$4,159,891	\$782,437
Total Forgone Benefits (Opportunity Costs)	\$11,897,700	\$12,013,258	\$1,456,704
Total Program Costs	\$10,712,164	\$19,572,480	\$10,712,164
<b>Result</b>	<b>\$0.72</b>	<b>\$0.40</b>	<b>\$0.06</b>

**Table 27. ROI Calculations for Medium-Term Scenario**

Components	Total Benefits per Federal Dollar (2020\$)	Total Benefits per Funder Dollar (2020\$)	Federal Government Benefits per Federal Dollar (2020\$)
Total Program Benefits	\$121,966,961	\$121,966,961	\$23,992,231
Total Forgone Benefits (Opportunity Costs)	\$14,350,231	\$16,494,344	\$3,909,236
Total Program Costs	\$10,712,164	\$19,572,480	\$10,712,164
<b>Result</b>	<b>\$10.05</b>	<b>\$5.39</b>	<b>\$1.87</b>

**Table 28. ROI Calculations for Long-Term Scenario**

Components	Total Benefits per Federal Dollar (2020\$)	Total Benefits per Funder Dollar (2020\$)	Federal Government Benefits per Federal Dollar (2020\$)
Total Program Benefits	\$210,338,167	\$210,338,167	\$43,466,256
Total Forgone Benefits (Opportunity Costs)	\$17,817,657	\$22,829,770	\$7,376,661
Total Program Costs	\$10,712,164	\$19,572,480	\$10,712,164
<b>Result</b>	<b>\$17.97</b>	<b>\$9.58</b>	<b>\$3.37</b>

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