

Return on Investment Study: *SBP AmeriCorps*

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CONTENTS

Executive Summary	ES-1
Program Description	ES-1
Overview of Benefits and Costs	ES-1
ROI Results	ES-2
Introduction	1
Program Description	2
Population Served	2
SBP Evaluation History	2
Selection of SBP for the AmeriCorps ROI Project	2
Comparable ROI Estimates	2
ROI Methodology	3
Monetizing Program Benefits, Forgone Benefits (Opportunity Costs), and Program Costs	5
ROI Study Limitations	16
Program Benefits, Forgone Benefits (Opportunity Costs), Program Costs, and ROI Results	17
Program Benefits	17
Forgone Benefits (Opportunity Costs)	18
Program Costs	19
ROI Results	20
Recommendations for Further Research	24
Conclusion	25
Appendix A: Program Benefits, Forgone Benefits, and Program Costs Included in Return on Investment Calculations	26
Appendix B: Additional Information on the Methodology	33
Methodology Overview	33
Measuring Program Benefits	34
Measuring Forgone Benefits (Opportunity Costs)	49
Measuring Program Costs	53
Calculating ROI	53
Appendix C: Results by Year	56
References	61

LIST OF FIGURES

Figure 1. Benefits Among Stakeholder Groups Derived From SBP	4
Figure 2. Benefits by Stakeholder Group	18
Figure 3. Funding Source Breakout	20
Figure 4. Unemployment Status Results From Friedman et al. (2016)	35
Figure 5. Compound Interest Formula Used to Calculate Investment Opportunity Cost	52

LIST OF TABLES

Table 1. Benefits Realized From SBP by Stakeholder Group.....	6
Table 2. SBP Project Cost Data.....	9
Table 3. Construction Cost Comparison	10
Table 4. Rent Savings Comparison	11
Table 5. Program Benefits by Recipient	18
Table 6. Forgone Benefits From Professional Opportunity Cost	19
Table 7. Investment Opportunity Cost by Scenario and Funding Stream.....	19
Table 8. Program Cost by Funding Source for SBP.....	20
Table 9. Program Benefits, Net Benefits, and Program Costs by ROI Scenario.....	21
Table 10. ROI Results for SBP	22
Table 11. Program Benefits, Forgone Benefits, and Program Costs Included in ROI Calculations	26
Table 12. SBP AmeriCorps Member Benefits From the Living Allowance and Education Award	35
Table 13. Additional Pre-Tax Earnings for SBP AmeriCorps Members From Reduced Unemployment Based on SBP AmeriCorps Member Demographics	36
Table 14. Cumulative Additional Post-Tax Earnings Derived From Reduced Unemployment Due to Serving With SBP by Scenario.....	37
Table 15. Average Total Cost of Education and Portion Attributable to Education Award by Degree Type.....	38
Table 16. Estimates of the Number of Postsecondary Degrees Pursued Using the Education Award by Degree Type.....	39
Table 17. Additional Earnings From AmeriCorps Members' Use of the Education Award	40
Table 18. Government Costs by Educational Attainment Level per Individual's Lifetime	46
Table 19. 2020 Tax Rates and Ratio of Taxable Expenditures for SBP AmeriCorps Members' Earnings, Living Allowances, and Education Awards	47

Table 20. State/Local and Federal Government Benefits by Stakeholder Group and by Scenario	48
Table 21. Forgone Earnings of SBP AmeriCorps Members for a Service Term.....	50
Table 22. Forgone Taxes Associated With the Forgone Earnings of SBP AmeriCorps Members for a Service Term.....	51
Table 23. Forgone Benefits From Investment Opportunity Cost Calculation by Scenario and Funding Stream.....	52
Table 24. Funding Sources and Amounts for SBP (2018–2019)	53
Table 25. ROI Calculations for Short-Term Scenario.....	54
Table 26. ROI Calculations for Medium-Term Scenario	55
Table 27. ROI Calculations for Long-Term Scenario.....	55
Table 28. SBP Program Benefits and Costs per Year	57

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Executive Summary

Program Description

SBP is a national organization that engages in disaster recovery efforts across the country.¹ SBP seeks to make vulnerable residents resilient to potential disaster and to streamline the rebuilding of homes for those who have survived disaster to reduce the time and cost of disaster relief. With the support of volunteers and donors, including AmeriCorps investment, SBP pursues that mission with five interventions: 1) quickly rebuilding homes by utilizing private-sector innovations, 2) sharing rebuilding ideas and innovation with other organizations to provide relief as rapidly and efficiently as possible, 3) preparing home and business owners before and after a disaster to mitigate risks and promote resilience against possible future disasters, 4) advising policymakers on pressing recovery needs immediately after disasters so federal funding can be distributed sooner, and 5) advocating for improved strategies to prepare for disasters and provide relief when disasters occur.

AmeriCorps, the federal agency for volunteerism and national service, provides opportunities for Americans to serve their country domestically, address the nation's most pressing challenges, improve lives and communities, and strengthen civic engagement. Each year, the agency invests more than \$800 million in grants for local nonprofit, community, tribal, and state organizations; places more than 250,000 AmeriCorps members and AmeriCorps Seniors volunteers in intensive service roles; and empowers millions more to serve as long-term, short-term, or one-time volunteers. Learn more at [AmeriCorps.gov](https://www.americorps.gov).

To better understand the impact of the program in relation to costs, AmeriCorps commissioned a return on investment (ROI) analysis by ICF, an independent research firm. ROI analyses of national service programs estimate the monetary value of benefits that a program generates per dollar invested.

Benefits resulting from this program are expected to accrue over an extended period. For that reason, ROI estimates may be low or even negative in the short-term, but positive in the medium- and long-terms.

Overview of Benefits and Costs

To calculate the ROI, the program benefits were identified, quantified, and compared to the program's costs. Benefits of SBP's activities include:

¹ SBP was originally called "St. Bernard Project," as the founders volunteered in Louisiana's St. Bernard Parish following Hurricane Katrina. As the program has expanded to provide disaster relief services throughout the United States, it has rebranded to "SBP."

- **Reduced construction time and construction costs for federal and state governments.** SBP reduces the time spent on home reconstruction, which decreases government spending on temporary housing during reconstruction. SBP also limits government spending on construction itself by rebuilding homes at a lower cost.
- **Additional earnings by AmeriCorps members.** Serving in AmeriCorps leads to increased wages and reduced unemployment post-national service through skill acquisition, as well as increased educational attainment post-service.
- **Living allowances, stipends, and education awards.** AmeriCorps members receive living allowances and stipends during their national service and receive a Segal AmeriCorps Education Award after successful completion.
- **Increased tax revenue for government.** Federal, state, and local governments receive more income tax revenue from increased AmeriCorps member earnings post-service, as well as additional sales tax revenue related to those earnings. Federal and state governments also realize tax revenue from the taxable living allowances, stipends, and education awards provided to AmeriCorps members.
- **Reduced lifetime spending on corrections, public assistance, and social insurance.** Because of the increase in secondary and postsecondary educational attainment for AmeriCorps members, federal and state governments spend less on these items.

It is important to note that, although there are likely benefits to the families and communities impacted by SBP's reconstruction efforts, the data needed to quantify and monetize those benefits are not available. For that reason, this analysis does not include those benefits.

Funding for SBP during the 2018–2019 program year totaled \$29,619,288 and came from the following sources:

- Federal government (AmeriCorps)
- State and local government
- Private
- Other

ROI Results

Table ES-1 shows the ROI results. Each row represents a different ROI calculation depending on which benefits are considered (all benefits or only benefits to the federal government) and which funding is considered (federal funding only, or all funding, including contributions and non-federal grants, other contributions, and program fees). The ROIs are presented as dollars returned for every dollar of investment. The analysis used three different scenarios to estimate benefits under different assumptions. Specifically, the study assumed that increased earnings attributable to the programs last for 1 year (short-term scenario), 15 years (medium-term scenario), or 30 years (long-term scenario).

Table ES-1. ROI Estimates

ROI calculation	ROI scenario		
	Short-term	Medium-term	Long-term
Total benefits per federal dollar	-\$3.67	\$3.38	\$11.96
Total benefits per funder dollar	-\$1.27	\$1.17	\$4.14
Federal government benefits per federal dollar	-\$0.33	\$1.61	\$3.76

The program produces strong returns for the medium- and long-term scenarios when benefits to AmeriCorps members, program 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—which only includes benefits for 1 year post-program—the ROI results estimate a short-term loss on funding invested in the program. An ROI below the break-even point of \$1 in the first year post-program is common in programs in which there is an initial one-time investment followed by the accrual of program benefits in the following years. It can require several years of benefits to recoup the initial investment and generate positive returns. An ROI of less than \$0 indicates that the combination of opportunity costs and program costs exceeds the amount of funding invested for the period analyzed.

The magnitude of the positive ROI estimates in the medium- and long-term scenarios is driven by the following factors:

- **Educational attainment outcomes of AmeriCorps members.** After serving in the AmeriCorps program, AmeriCorps members receive an education award, which is used by a portion of members to help pay for postsecondary degrees post-service. The additional educational attainment resulting from the use of the education award generates additional earnings for AmeriCorps members.
- **Employment outcomes of AmeriCorps members.** Past studies establish that AmeriCorps members experience increased employment and increased earnings post-service.

Introduction

AmeriCorps contracted with ICF Incorporated, LLC (hereafter ICF) to research 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 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 subjects of ROI studies for fiscal year 2022. The programs selected included: Breakthrough Central Texas's Austin program, Nevada Conservation Corps, SBP, and Washington State Department of Veterans Affairs Vet Corps. This ROI study measures the benefits of SBP's activities against costs.

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. This 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 set of ROI estimates for programs that are similar to SBP.
- **ROI Methodology** outlines how this analysis used various data sources to monetize benefits derived from SBP, describes its associated program costs, and explains how opportunity costs were calculated.
- **Benefits, Forgone Benefits (Opportunity Cost), 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

SBP is a national organization seeking to reduce the time and cost of disaster relief. With the support of volunteers and donors, including AmeriCorps investment, SBP pursues that mission with five interventions: 1) quickly rebuilding homes by utilizing private-sector innovations, 2) sharing rebuild ideas and innovation with other organizations to provide relief as rapidly and efficiently as possible, 3) preparing home and business owners before and after a disaster to mitigate risks and promote resilience against possible future disasters, 4) advising policymakers on pressing recovery needs immediately after disasters so federal funding can be distributed sooner, and 5) advocating for improved strategies to prepare for disasters and provide relief when disasters occur.

Population Served

SBP has served 80+ communities in total, according to their 2019 Annual Report,² of which 13+ have involved rebuilding efforts. SBP has built homes for more than 2,140 families with the help of more than 130,000 volunteers in locations such as New Orleans, LA; Joplin, MO; Staten Island, NY; Rockaway, NY; Monmouth and Ocean counties, NJ; San Marcos, TX; Columbia, SC; Baton Rouge, LA; Houston, TX; Brazoria County, TX; Puerto Rico; the Florida Panhandle; and the Bahamas.

SBP Evaluation History

SBP's program evaluations have not attempted to measure outcomes that can be used in ROI analysis. Instead, this analysis uses administrative data from SBP and other sources to calculate the benefits of SBP's programming.

Selection of SBP for the AmeriCorps ROI Project

ICF recommended making SBP's disaster recovery programming the subject of an ROI study after determining that it was feasible to measure and monetize certain program benefits, particularly savings from construction costs and reduced construction time. SBP operates throughout the Gulf Coast and Atlantic Coast, rebuilding homes impacted by natural disasters. SBP primarily serves low- and middle-income families to return them to safe and sanitary homes. This is the first AmeriCorps ROI study on a disaster recovery program. It pioneers strategies for monetizing outcomes associated with disaster recovery efforts.

Comparable ROI Estimates

A literature review did not identify any ROI studies that examined disaster relief programs that focus on housing construction in a way similar to SBP. However, a 2020 Government Accountability Office (GAO) report assessed the cost-effectiveness of housing assistance programs provided after 2017 and 2018 hurricanes (GAO, 2020). The report found that FEMA does not have a data system that captures the data

² Nicole Asproditis, SBP contact, personal communication, March 7, 2022. Hereafter, all instances of SBP referenced as a data source were retrieved from this communication.

necessary to determine the cost of each unit and identified the lack of data available to accurately assess ROI specifically for FEMA's disaster assistance housing program.

Although, there is a considerable amount of the literature on disaster relief efforts for housing construction, much of it only discusses mitigation and pre-disaster assistance and does not examine ROI.

ROI Methodology

The methodology for estimating SBP's ROI consisted of the following components:

1. **Measuring and monetizing program benefits.**³ This included using program data provided by SBP, publicly available data, and other third-party sources to estimate the benefits to SBP AmeriCorps members and the government. The benefits realized across these stakeholder groups include:
 - o **AmeriCorps members.** SBP AmeriCorps members benefit from:
 - a) Living allowances and education awards
 - b) Increased earnings due to reduced unemployment
 - c) Increased lifetime earnings due to increased postsecondary education derived from the use of education awards
 - o **Government.** State, local, and federal governments benefit from:
 - a) Cost savings to the federal government on temporary housing costs due to reduced construction time; SBP also limits government spending on construction itself by rebuilding homes at a lower cost⁴
 - b) Increased income, Social Security, and Medicare tax revenue from SBP AmeriCorps members' increased earnings, and increased sales tax revenue from the increased economic activity that results from those increased earnings

³ The ROI analysis does not include any benefits to private insurance companies or homeowners from SBP's reconstruction efforts. Although it is likely that private insurance companies and homeowners experience cost savings from SBP reconstruction activities, associated with lower costs and faster construction time frames, those savings are not included in the ROI analysis. Cost savings related to these benefits are only included for federal and state/local government. This is due to lack of data availability on the monetary expenditures borne by private insurance and homeowners related to disaster recovery efforts.

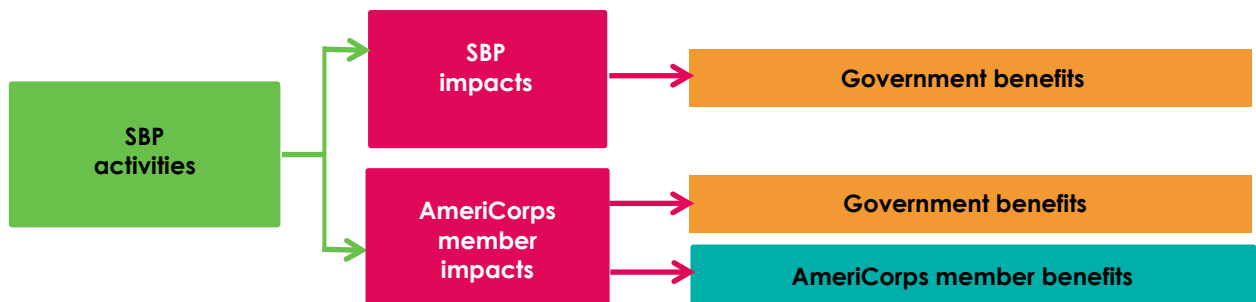
⁴ ICF used HUD Quarterly Performance Reports to understand benefits to government related to the savings in temporary housing and construction costs. The HUD Quarterly Performance Reports document government expenditures from federal agencies (including FEMA) and state and local governments for disaster relief efforts throughout the United States, such as the implementation of many federal and state restoration and recovery programs, including the FEMA match program, small business loan and technical assistance programs, and other disaster-specific programs, such as the Restore Louisiana Homeowner Assistance Program. All instances of HUD Quarterly Performance Reports used as data sources refer to the *Great Floods of 2016 reports* published by the Louisiana Division of Administration and quarterly reports published by the New York State Governor's Office of Storm Recovery.

- c) Reduced spending on corrections, public assistance, and social insurance and increased tax revenue associated with SBP AmeriCorps members' increased educational attainment post-service
- d) Tax revenue from SBP AmeriCorps members' living allowances and education awards

2. **Estimating forgone benefits (opportunity costs).** This ROI analysis estimated two types of forgone benefits. The first was the professional opportunity cost to SBP AmeriCorps members for their period of national service, during which they could have earned more pay by doing other work. The second was the investment opportunity cost for SBP AmeriCorps program funding that could have been used for other purposes.
3. **Assessing program costs.** SBP provided program costs for the program year of 2018–2019. SBP costs for the 2018–2019 program year included operating costs, AmeriCorps member expenses, non-AmeriCorps member expenses, and other indirect costs. AmeriCorps member expenses included the living allowance amounts received during service and the expected education awards received post-service.
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 dollar⁵
 - 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 SBP. Figure 1 shows how SBP activities can result in benefits to SBP AmeriCorps members and federal, state, and local governments.

Figure 1. Benefits Among Stakeholder Groups Derived From SBP



⁵ The different funder groups whose investment is in this calculation include the federal government (i.e., AmeriCorps) and state and local governments that provide match funding.

Available data establish that SBP AmeriCorps members enjoy earnings impacts as a result of serving with SBP. However, the data do not establish the duration of those benefits. To address a range of possible durations for those benefits, the analysis includes three scenarios:⁶

- **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 2021 dollars.⁷ 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 SBP AmeriCorps members' 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 2021 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.

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

This analysis monetized an array of benefits and forgone benefits, and calculated program costs, to assess the ROI of SBP. Additional details on the methodology are provided in Appendix B. The period of program activity studied—October 2018 through September 2019—preceded the COVID-19 pandemic. SBP experienced disruptions to their program activities in more recent program years.

⁶ These three scenarios consider varying durations of how long increased employment and earnings benefits last for SBP AmeriCorps members. They also consider varying durations for lifetime benefits that stem from the SBP program. For example, lifetime benefits in terms of decreased public assistance, social insurance, and corrections costs result from SBP AmeriCorps members' 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.

⁷ 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).

Program Benefits

Outcomes of SBP result in monetizable benefits to SBP AmeriCorps members and federal, state, and local governments. Table 1 summarizes these benefits and data sources by stakeholder group. It is important to note that, although there are likely benefits to the families and communities impacted by SBP’s reconstruction efforts, the data needed to quantify and monetize those benefits are not available. For that reason, this analysis does not include those benefits.

Table 1. Benefits Realized From SBP by Stakeholder Group

Stakeholder group	Benefits
SBP AmeriCorps members	<ul style="list-style-type: none"> • Additional earnings from reduced unemployment • Additional lifetime earnings from increased educational attainment as a result of education awards • Post-tax living allowances and education awards
Federal, state, and local governments	<ul style="list-style-type: none"> • Benefits to government of reduced construction time and construction costs • Decreased government spending on construction • Decreased government spending on housing displaced families • Tax revenue from increased earnings by SBP AmeriCorps members post-program and sales tax revenue from the induced increased economic activity • Tax revenue from living allowances and education awards • Reduced lifetime spending on corrections, public assistance, and social insurance from increased educational attainment by SBP AmeriCorps members as a result of education awards • Lifetime tax revenue from increased educational attainment by SBP AmeriCorps members as a result of education awards

Benefits to AmeriCorps Members

Post-Tax Living Allowances and Education Awards (Benefits to SBP AmeriCorps Members)

Member-specific benefits to AmeriCorps members serving with SBP include post-tax living allowances AmeriCorps State and National members receive during their national service and post-tax education awards they receive after service completion. All are

considered taxable income and thus result in increased government revenue.⁸ The post-tax living allowance and the education award amount that was used to repay student loans were included in the ROI analysis as direct one-time benefits to SBP AmeriCorps members.

Additional Earnings From Reduced Unemployment (Benefit to SBP AmeriCorps Members)

Evaluations have shown that serving in AmeriCorps fosters higher skill acquisition, increased educational attainment, and higher income from increased employment post-national service.⁹ Freidman et al. (2016) found that unemployment among AmeriCorps members 6 months after their period of national service was 5 percentage points lower compared to 6 months before serving.¹⁰ To monetize this decrease in unemployment, the analysis first collected information on the demographic distribution of SBP AmeriCorps State and National members who served during the 2018–2019 program year in terms of race/ethnicity, gender, age, and education level pre-service using data provided by SBP.¹¹ The analysis then proceeded to:

1. Estimate SBP AmeriCorps members' per-person average annual earnings (weighted by the above demographics) using data from the Current Population Survey's Annual Social and Economic (ASEC) Supplement for 2020 (U.S. Census Bureau, 2020)
2. Multiply the 5-percentage-point reduction in unemployment from Freidman et al. (2016) by the number of SBP AmeriCorps members who served during the most recent program year to estimate the number of *additional* SBP AmeriCorps members employed post-service
3. Multiply the demographically weighted per-person average annual earnings by the number of additional SBP AmeriCorps members employed to estimate the total increased earnings attributable to national service

The earnings metrics for SBP AmeriCorps members were applied and discounted based on the short-term, medium-term, and long-term scenarios to represent net present 2021 dollars. The post-tax SBP AmeriCorps members' projected earnings represent the additional income earned by AmeriCorps members attributable to serving with the SBP program.

⁸ The tax implications of the AmeriCorps member education award are stated here: AmeriCorps. (n.d.). Segal AmeriCorps Education Award. <https://americorps.gov/members-volunteers/segal-ameri-corps-education-award>

⁹ Relevant studies include Markovitz et al., 2008; Spera et al., 2013; Friedman et al., 2016; and Zeidenberg et al., 2016.

¹⁰ See page 56 of Friedman et al. (2016).

¹¹ SBP provided demographics for a 10 percent sample of their members.

Additional Lifetime Earnings From Increased Educational Attainment as a Result of Education Awards (Benefit to SBP AmeriCorps Members)

Another benefit derived from national service is the higher educational attainment of AmeriCorps members. AmeriCorps members—as documented in Friedman et al. (2016)—can use their education awards either to pay for additional postsecondary educational attainment or to repay student loans. Friedman et al. (2016) reported that 46 percent of AmeriCorps State and National members used their education award to pursue additional postsecondary education while 33 percent used it to repay student loans.¹²

This analysis estimated the expected increase in lifetime earnings of SBP AmeriCorps members attributable to the use of education awards to pay for additional postsecondary schooling. Based on the findings from Friedman et al. (2016), this ROI analysis estimated the amount in post-tax education awards that SBP AmeriCorps members used to pay for additional educational attainment. The analysis then estimated the value of the additional educational attainment attributable to the education awards in terms of lifetime earnings using data from Trostel (2015). These estimated additional post-tax lifetime earnings were included as a benefit to SBP AmeriCorps members. Additionally, lifetime earnings associated with the education award also generate benefits for federal, state, and local governments, as described in the section below.

Benefits to Government

Construction-Related Benefits

The analysis calculated the benefits of SBP's AmeriCorps program with administrative data from SBP along with HUD quarterly reports of reconstruction costs and census data on the length of time of housing reconstruction during the 2018–2019 program year. Because that time period preceded the COVID-19 pandemic, it best approximated normal circumstances.

1. Construction Cost Savings

To calculate the difference in reconstruction cost between government agency reconstruction efforts and SBP-led reconstruction, ICF used SBP data on the average cost of a reconstruction project for each location,¹³ the total number of household reconstruction projects per location, and any additional operating costs attributed to reconstruction efforts. Table 2 details the number of projects SBP worked on in each location during the 2018–2019 program year, the average cost of reconstruction for SBP in each location, as well as the operating cost attributed to each project location.

¹² Friedman et al. (2016). op. cit. Exhibit VIII-6.

¹³ Project locations based on the disasters SBP responded to during the 2018–2019 program year include: Bay County, Florida; Monmouth and Ocean counties, New Jersey; Rockaway, New York; Puerto Rico; New Orleans, Louisiana; Houston, Texas; Columbia, South Carolina; and Southern Louisiana.

To calculate each operating cost value, the total operating cost related to reconstruction activities (i.e., \$13,019,697.56) was split based on the percentage of the overall reconstruction cost attributed to each project. For example, the cost of reconstruction projects in Florida made up 2 percent of the overall reconstruction cost to SBP. Therefore, 2 percent of the total operating cost was added to SBP project costs in that location.

Table 2. SBP Project Cost Data

Project location*	Number of projects	Average project cost by location	Total project cost by location (number of projects X average project cost)	Additional operating cost per location
Florida	5	\$34,958	\$174,788	\$242,852
New Jersey	47	\$39,715	\$1,866,624	\$2,593,503
New York	27	\$34,675	\$936,226	\$1,300,800
Puerto Rico	64	\$15,712	\$1,005,556	\$1,397,127
New Orleans, Louisiana	20	\$19,071	\$381,415	\$529,941
Houston, Texas	125	\$28,810	\$3,601,204	\$5,003,542
South Carolina	66	\$15,840	\$1,045,467	\$1,452,581
Southern Louisiana	17	\$21,141	\$359,399	\$499,352

*Refer to footnote 13 for specific project locations.

Source: SBP (2022)

The analysis compared these costs to the estimated cost for federal, state, and local governments of rebuilding the same number of homes during the 2018–2019 program year, as derived from Quarterly Performance Reports to HUD for disaster recovery grants. HUD Quarterly Performance Reports are used to understand benefits to federal, state, and local governments related to the savings in temporary housing and construction costs. The HUD Quarterly Performance Reports document government expenditures from federal agencies (including FEMA) and state and local governments for disaster relief efforts throughout the United States, such as the implementation of many federal and state restoration and recovery programs, including the FEMA match program, small business loan and technical assistance programs, and other disaster-specific programs, such as the Restore Louisiana Homeowner Assistance Program.

The HUD Quarterly Performance Reports contain information on total expenditures and homes reconstructed per quarter by grantee. The analysis estimated federal, state, and local government per-unit reconstruction costs in Florida, Puerto Rico, New Orleans, Houston, South Carolina, and Southern Louisiana based on average costs from Q4 2018 and Q1–Q3 2019 HUD Quarterly Reports for the 2016 Louisiana Flood (Louisiana Division of Administration, 2022). The analysis estimated non-SBP rebuilding costs in New York

and New Jersey based on average costs from Q4 2018 and Q1–Q3 2019 HUD Quarterly Reports from Hurricane Sandy in 2012 (GOSR, 2022). Table 3 details the cost comparison.

Table 3. Construction Cost Comparison

Project location*	Total SBP project cost by location (total project cost + operating cost)	HUD quarterly report cost X number of SBP projects	Difference in cost
Florida	\$417,640	\$367,288	-\$50,351
New Jersey	\$4,460,126	\$506,236	-\$3,953,890
New York	\$2,237,026	\$290,817	-\$1,946,209
Puerto Rico	\$2,402,683	\$4,701,291	\$2,298,608
New Orleans, Louisiana	\$911,356	\$1,469,153	\$557,798
Houston, Texas	\$8,604,746	\$9,182,209	\$577,463
South Carolina	\$2,498,048	\$4,848,207	\$2,350,159
Southern Louisiana	\$858,751	\$1,248,780	\$390,029
Total	\$22,390,376	\$22,613,983	\$223,607

*Refer to footnote 13 for specific project locations.

Note: Numbers may not sum due to rounding.

Sources: SBP (2022) and HUD (2018–2019)

The analysis then compared SBP's costs in each project location with the estimated cost the federal government would have incurred to rebuild the same number of properties in those locations. As shown in Table 3, in locations such as New Jersey and New York, SBP reconstruction was found to be more expensive than the government efforts detailed in the HUD reports. This may be a result of variation in the work done by SBP and the work done by the contractors reporting to HUD or may be unique to the specific disaster addressed in those locations (Hurricane Sandy). Overall, this analysis estimated a total construction cost savings of \$223,607 for the 2018–2019 program year. Of this cost savings, the analysis assumed that 75 percent can be attributed to the federal government, resulting in a cost savings to the federal government of \$167,705.¹⁴ The remaining 25 percent can be attributed to state and local spending.

2. Cost Savings From Decreased Construction Time

The analysis used SBP-provided data on average construction time by project location to calculate the cost savings from decreased construction time. SBP construction time data was compared to census data on the average number of months from start to completion of new, privately owned, single-family residential buildings in 2018 and 2019

¹⁴ According to a 2019 Congressional Research Service report looking at federal disaster assistance after hurricanes Katrina, Rita, Wilma, Gustav, and Ike, federal government assistance usually accounts for 75 percent of recovery spending, while the remaining 25 percent can be attributed to state and local spending. <https://sfp.fas.org/crs/homesec/R43139.pdf>

(U.S. Census Bureau, 2019-b). Census data was organized by region of the United States. Therefore, SBP data from Florida, Puerto Rico, New Orleans, Houston, South Carolina, and Southern Louisiana were compared to census data from the South region of the United States, while SBP data from New Jersey and New York was compared to the Northeast region.

The analysis compared the difference in the number of months needed to complete housing reconstruction and then multiplied the value by the average monthly rent for the corresponding metropolitan area for each project location (U.S. Census Bureau, 2019-a). This rent-savings value was then multiplied by the number of SBP projects in each location during the 2018–2019 program year to generate a final cost savings value. Table 4 details the reduced number of months needed for SBP reconstruction efforts, as well as the total savings on rent attributed to each location.

Table 4. Rent Savings Comparison

Project location*	Number of projects	Difference in months needed for reconstruction	Average monthly rent	Total rent savings by project location
Florida	5	10.83	\$1,204	\$65,197
New Jersey	47	15.81	\$1,482	\$1,101,472
New York	27	17.82	\$1,482	\$712,891
Puerto Rico	64	12.25	\$482	\$377,952
New Orleans, Louisiana	20	12.36	\$983	\$243,030
Houston, Texas	125	12.33	\$1,139	\$1,755,712
South Carolina	66	12.478	\$920	\$757,681
Southern Louisiana	17	11.03	\$887	\$166,327
Total	371	N/A	N/A	\$5,180,263

*Refer to footnote 13 for specific project locations.

Note: Numbers may not sum due to rounding.

Sources: SBP (2022) and U.S. Census Bureau (2019-a)

The rent savings attributed to SBP reconstruction efforts benefits federal, state, and local governments because it represents reduced government expenses on housing displaced families while their homes are being rebuilt. The above analyses revealed cost savings of \$5,180,263 for the 2018–2019 program year. Of this cost savings, the analysis assumed that 75 percent can be attributed to the federal government,

resulting in cost savings to the federal government of \$3,885,197.¹⁵ The remaining 25 percent is attributed to state and local savings.

Tax Revenue Generation and Reduced Spending (Benefits to Government)

The benefits to SBP AmeriCorps members result in benefits to the various levels of government.

1. Benefits to Government From Increased Earnings by SBP AmeriCorps Members

State, local, and federal governments benefit from increased earnings by SBP AmeriCorps members. Those benefits include:

- **Income tax revenue from increased earnings by SBP AmeriCorps members post-service.** Federal income taxes, state income taxes, Medicare taxes, and Social Security taxes were estimated for the additional pre-tax earnings of SBP AmeriCorps members 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 SBP AmeriCorps member. 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 SBP AmeriCorps members may disperse to various locations nationwide following their service terms and continue to migrate over the course of their working years.

- **Sales tax revenue from the increased economic activity that results from increased earnings by SBP AmeriCorps members post-service.** To estimate the additional sales tax revenue generated due to the additional post-tax earnings of SBP AmeriCorps members, the combined state and average local sales tax rate for the United States—weighted by states' populations—was calculated. This analysis applied that rate to the estimated taxable expenditures of SBP AmeriCorps members based on their post-service pre-tax earnings using Consumer Expenditure Survey data (U.S. Bureau of Labor Statistics, 2021).¹⁶ The resulting product was then applied to the share of post-tax earnings attributable to serving with SBP to estimate state and local government sales tax revenue.

¹⁵ According to a 2019 Congressional Research Service report looking at federal disaster assistance after hurricanes Katrina, Rita, Wilma, Gustav, and Ike, federal government assistance usually accounts for 75 percent of recovery spending, while the remaining 25 percent can be attributed to state and local spending. <https://sgp.fas.org/crs/homsec/R43139.pdf>

¹⁶ To calculate the estimated taxable expenditures, Consumer Expenditure Survey (CE) 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 SBP AmeriCorps members 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>.

2. Benefits to Government From Increased Educational Attainment by SBP AmeriCorps Members

State, local, and federal governments benefit from increased postsecondary educational attainment by SBP AmeriCorps members. Those benefits include:

- **Tax revenue from education awards.** Education awards provided to SBP AmeriCorps members upon service completion are subject to taxes, resulting in additional government revenue.¹⁷ 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 SBP AmeriCorps members 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.** Higher educational attainment is associated with less dependence on government assistance programs and lower incarceration rates (Blagg and Blom, 2018; Harlow, 2003). Because of SBP AmeriCorps members' increased postsecondary educational attainment due to the use of the education award, state and local governments spend less. For the monetization of these benefits, the analysis paired the expected increase in postsecondary educational attainment of SBP AmeriCorps members with the expected difference in per-person lifetime government cost savings from Medicaid, SNAP, unemployment insurance, workers' compensation, and corrections for individuals with different levels of educational attainment. The latter values were provided by Trostel (2015).
- **Lifetime tax revenue from increased educational attainment as a result of education awards.** Another benefit related to SBP AmeriCorps members captured in this ROI study is the lifetime tax revenue generated from members' higher postsecondary educational attainment due to the use of the education award. Here, the estimated increase in SBP AmeriCorps members' postsecondary 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 includes federal income, state income, property, Social Security, Medicare, and sales taxes derived from use of the education award.

¹⁷ The tax implications of the AmeriCorps member education award are stated here: AmeriCorps. (n.d.). Segal AmeriCorps Education Award. <https://americorps.gov/members-volunteers/segal-americorps-education-award>

3. Benefits to Government From Living Allowances Received by SBP AmeriCorps Members

The living allowance provided to SBP AmeriCorps members during their service term is considered taxable income. This analysis applied a proportional federal income tax rate as well as Medicare and Social Security tax rates to the pre-tax living allowance amount received by SBP AmeriCorps members for the most recent program year. The analysis also applied a sales tax rate to the estimated taxable expenditures of SBP AmeriCorps members based on their post-tax living allowance amount to estimate additional state and local government revenue.

Forgone Benefits (Opportunity Costs)

The analysis incorporated two forgone benefits (opportunity costs) into each of the three ROI calculations for SBP: a professional opportunity cost to SBP AmeriCorps members and an investment opportunity cost to funders. The forgone benefits are subtracted from the program benefits 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*.

Professional Opportunity Cost to SBP AmeriCorps Members

The first forgone benefit (opportunity cost) was the professional opportunity cost to SBP AmeriCorps members for their period of national service, during which they could otherwise be working and earning higher pay. To calculate this, this analysis estimated what SBP AmeriCorps members would have earned if they did not serve in SBP. Specifically, this analysis estimated the weighted average annual earnings of this group as well as their weighted unemployment rate using the demographic distribution of SBP AmeriCorps members for the 2018–2019 program year and Annual Social and Economic (ASEC) data. The demographics included were gender, age, race/ethnicity, and pre-service highest level of education. The weighted average annual earnings represent the expected earnings of the SBP AmeriCorps members if they were employed and not serving in the SBP program. The weighted unemployment rate represents how many of the SBP AmeriCorps members would have been unemployed if they did not serve in SBP. These weighted metrics were first used to estimate the portion of SBP members who would have been employed and then to calculate the aggregate earnings those employed individuals would have made without serving in SBP. Namely, they are used to calculate the aggregate post-tax earnings this population would forgo due to serving with SBP for one year. Some of the forgone earnings would have been paid in the form of taxes. To appropriately allocate opportunity costs between SBP AmeriCorps members and federal, state, and local governments, 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. Combined, these taxes represent what the various levels of government are forgoing in tax revenue when these individuals decide to serve in SBP instead of working for higher pay. The summation of all forgone taxes and the forgone post-tax earnings of SBP AmeriCorps members 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 are subtracted from all federal government benefits (i.e., forgone federal income, Social Security, and Medicare taxes) realized as a result of SBP in this ROI calculation. The parts of the professional opportunity cost removed from these total federal government benefits include the federal income, Social Security, and Medicare taxes forgone due to SBP AmeriCorps members forgoing earnings during their service year. The summation of these forgone federal taxes is called the *federal professional opportunity cost*.

Investment Opportunity Cost to Funders

The second opportunity cost used in this ROI analysis is an investment opportunity cost. It estimates the expected forgone return if all funds used to support SBP during the 2018–2019 program year were invested in U.S. Treasury bonds instead. To calculate this, the analysis matched the 2018 real interest rates provided by the Office of Management and Budget (2020) to each of the scenarios leveraged in this ROI analysis: short-term, medium-term, and long-term.¹⁸ 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 is used for the short-term scenario, the average between the 10-year and 20-year maturity rates is used as the rate for the medium-term scenario, and the 30-year maturity rate is used for the long-term scenario. These real interest rates are 0.6 percent, 0.8 percent, and 1.0 percent, respectively (Office of Management and Budget, 2020). Also, the number of time periods elapsed on these bonds is equal to the number of years the short-term, medium-term, and long-term scenarios assume SBP AmeriCorps members' employment and earnings gains are sustained: 1 year, 15 years, and 30 years, respectively. These bonds compound biannually, according to the U.S. Department of the Treasury (2019). The forgone accrued interest was calculated for each of the three scenarios if the funding amount used to support SBP was instead invested (U.S. Department of the Treasury, 2019). Note that for 1) the *federal government benefits per federal dollar* calculation and 2) the *total benefits per federal dollar ROI calculation*, 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 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 accrued interest from investing all SBP 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.

¹⁸ The analysis used 2018 real interest rates for U.S. Treasury bonds because the SBP program year analyzed began in 2018.

Program Costs

The costs for SBP used for this ROI analysis include federal, state, local, and private funding to support program operations. The costs are specific to the 2018–2019 SBP program year. SBP costs for the 2018–2019 program year include operating costs, AmeriCorps member expenses, and other costs. Operating costs capture the majority of expenses, which include construction-related expenses and other program staff costs. AmeriCorps member expenses include the living allowance and other benefits members receive during service. Other costs are indirect costs incurred by SBP, including the organization’s construction work-in-progress value.¹⁹

ROI Study Limitations

This analysis was limited due to the lack of available data needed to capture all benefits from SBP programming.

HUD Quarterly Performance Reports

The analysis used Quarterly Performance Reports provided to HUD following natural disasters as a baseline to calculate the cost savings resulting from SBP-led reconstruction. These reports include the number of single-family units rebuilt during a given quarter, as well as the funds expended in that quarter for each government grantee. This allowed ICF to calculate an average cost per unit for government-funded reconstruction during SBP’s 2018–2019 program year. However, the funds reported by each contractor were not exclusively construction costs. The reports do not provide a breakdown of administrative costs and other expenses that may be included. While these reports are currently the best publicly available source to understand government spending on home reconstruction, they may inflate or deflate the estimation of construction costs for non-SBP firms. ICF was able to include SBP operating costs related to construction in the analysis; however, these costs may not directly align to the corresponding value in the HUD reports.

The availability of these reports was additionally limited. The analysis used Quarterly Performance Reports from the 2016 Louisiana floods (Louisiana Division of Administration, 2022), as well as reports from the State of New York following Hurricane Sandy in 2012 (GOSR, 2022), as a comparison for SBP activities. While these two reports align with the general regions of SBP’s work, they do not directly match each of the disaster areas SBP works in.

Census-Provided Data

The census’s construction time estimates are only provided at a national level and for four regions of the United States. This results in a less-precise comparison of construction time to SBP projects. Additionally, the survey contains data of non-disaster-impacted construction, additionally contributing to a less-precise comparison.

¹⁹ SBP (2022)

Attributing Benefits to the Federal Government

To estimate benefits from SBP's construction efforts to the government, it is important to understand the amount of funding that is provided by the federal or state/local government following a disaster. This value may differ depending on the disaster; however, ICF was unable to find disaster-specific values. Therefore, government benefits related only to home construction were split according to a Congressional Research Service report (2019) attributing 75 percent of disaster recovery efforts to the federal government and 25 percent to state and local efforts.

Monetizing Benefits to Homeowners and Private Insurance

The analysis does not include a discussion or monetization of benefits to private insurance companies or homeowners affected by SBP's reconstruction efforts. This is due to lack of data availability on the benefits derived by these stakeholder groups and the corresponding monetary value of these benefits. This includes benefits of reduced time spent in temporary housing, such as reduced disruption for children, health-related benefits resulting from improved air quality in the newly construction home, and any potential savings by homeowners related to deductibles paid to insurance companies. Further research and data are needed to incorporate these benefits into a complete analysis.

Program Benefits, Forgone Benefits (Opportunity Costs), Program Costs, and ROI Results

This section provides estimates of program benefits, forgone benefits (opportunity costs), and program costs, along with the ROI results.

Program Benefits

Table 5 shows the estimates of monetized benefits of SBP by stakeholder group for each of the three scenarios. The majority of monetized benefits are realized by SBP AmeriCorps members and the federal government. The benefits to federal and state/local governments are in part composed of cost savings realized by various federal government agencies that provide funds for disaster relief, including FEMA, and also specific state and local agencies that fund disaster relief efforts. As noted earlier, although it is likely that private insurance companies and the homeowners themselves experience cost savings from SBP reconstruction activities, those savings are not included in the ROI analysis. Those benefits are only included for federal and state/local governments. Other benefits to federal, state, and local governments include tax revenue generation associated with AmeriCorps members' increased lifetime earnings and savings in public assistance associated with AmeriCorps members' increased earnings and higher educational attainment.

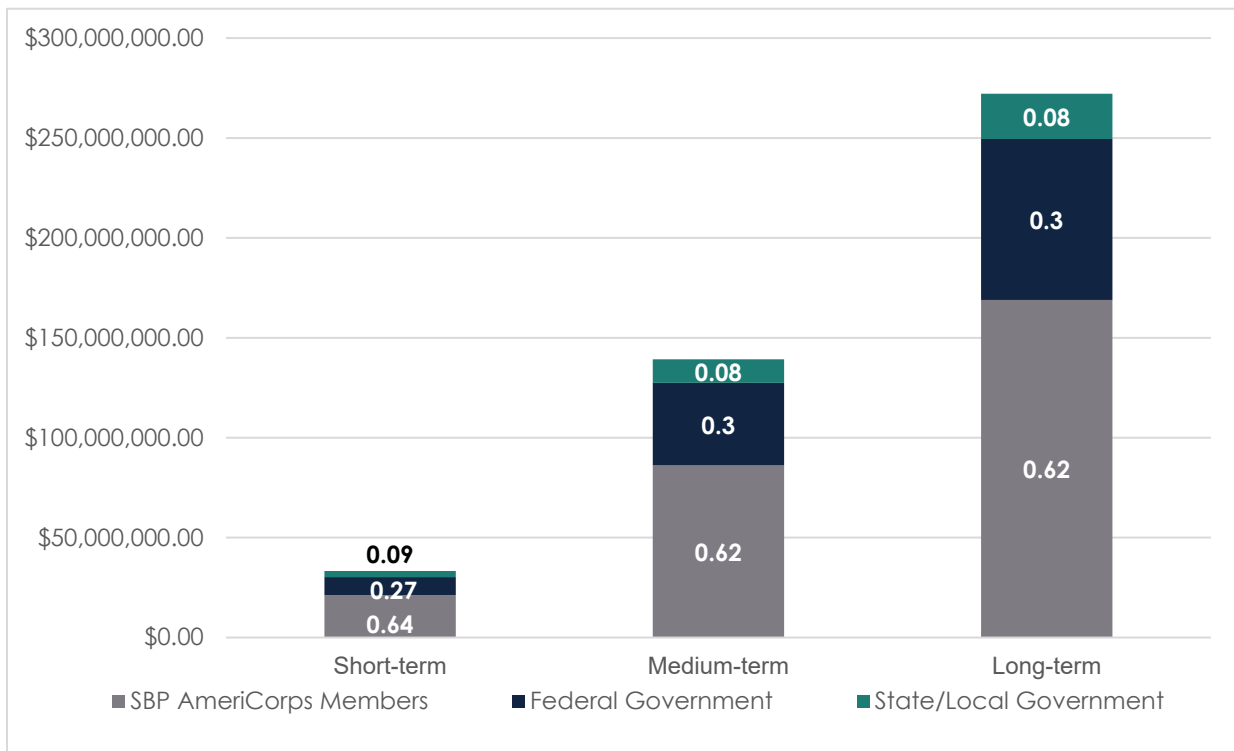
Table 5. Program Benefits by Recipient

Recipient	Benefits by scenario		
	Short-term	Medium-term	Long-term
SBP AmeriCorps members	\$21,179,419	\$86,149,863	\$168,942,295
Federal government	\$9,055,757	\$41,301,093	\$80,572,549
State/local governments	\$3,100,597	\$11,760,391	\$22,592,825
Total	\$33,335,774	\$139,211,346	\$272,107,669

Note: Numbers may not sum due to rounding.

Figure 2 shows the percentage breakout of total benefits by stakeholder group for each of the three scenarios. In all three scenarios, both SBP AmeriCorps members and the federal government combined realized 93 percent or more of program benefits. The federal government alone realizes roughly 62 percent of the total benefits provided by the SBP program.

Figure 2. Benefits by Stakeholder Group



Forgone Benefits (Opportunity Costs)

Table 6 shows the breakdown of the forgone benefits from the professional opportunity cost to SBP AmeriCorps members and federal, state, and local governments in net present 2019 dollars. It lists the amount of post-tax earnings that members are forgoing—and the associated taxes forgone to government—due to members serving in SBP for a service term instead of working. 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 that are realized due to SBP. The summation 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
Post-tax earnings for members	\$66,093,791
Federal income, Social Security, and Medicare taxes	\$13,445,792
State income and sales taxes	\$5,143,018
Total	\$84,682,601

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

- a) Total SBP program funds for the program year are invested in U.S. Treasury bonds
- b) Only federal SBP program 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.

Table 7. Investment Opportunity Cost by Scenario and Funding Stream

Funding stream	Forgone accrued interest by scenario		
	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 SBP AmeriCorps funding	\$244,579	\$5,178,415	\$14,198,958
Federal SBP AmeriCorps funding only	\$84,597	\$1,791,155	\$4,911,259

Program Costs

Table 8 shows the cost of SBP for the 2018–2019 program year by funding source, while Figure 3 shows what portion of SBP program funds were provided by AmeriCorps compared to other stakeholder groups (i.e., match funders). The table also highlights a further breakdown of these two funding streams, where applicable. Overall, the total cost of SBP for this program year was \$29,619,288. Ten percent of SBP costs (almost \$3 million) was funded by the federal government. This amount includes the AmeriCorps State and National grant and the expected education awards. The remaining 90

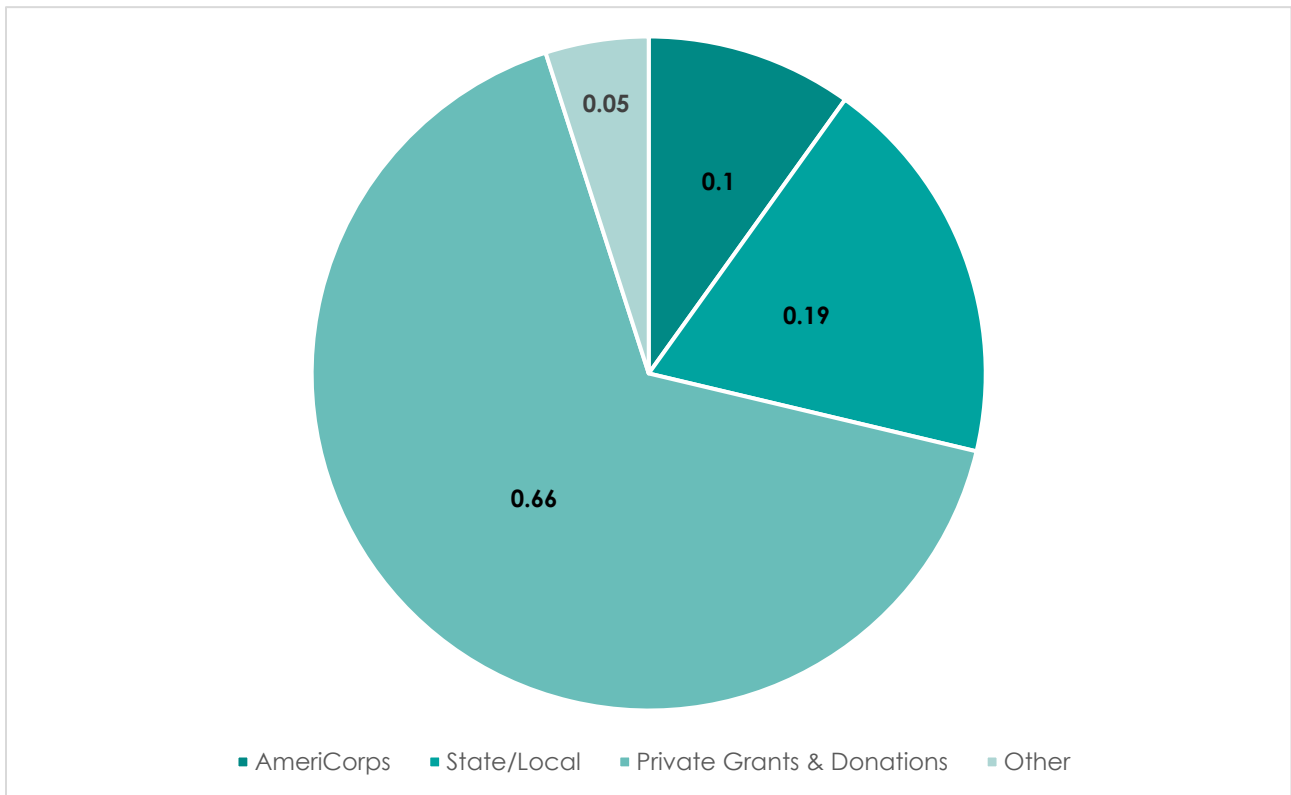
percent (or roughly \$27 million) consisted of match funding from state and local governments, private funding, and other revenue sources.

Table 8. Program Cost by Funding Source for SBP

Funder	Funding provided for the program year (\$)
AmeriCorps	\$2,995,538
State/local	\$5,493,637
Private grants & donations	\$19,717,218
Other	\$1,412,895
Total	\$29,619,288

Note: Numbers may not sum due to rounding.

Figure 3. Funding Source Breakout



ROI Results

This analysis developed three ROI estimates using the three scenarios (short-term, medium-term, and long-term). As noted above, the ROI calculations compare the net benefits of SBP with program costs to calculate the ROI.

Table 9 shows the program gross benefits, forgone benefits, net benefits, and costs of SBP programming that are used in three ROI calculations.

Table 9. Program Benefits, Net Benefits, and Program Costs by ROI Scenario

Benefits and costs	ROI scenario (2021\$)		
	Short-term	Medium-term	Long-term
Total program gross benefits	\$33,335,774	\$139,211,346	\$272,107,669
AmeriCorps member benefits	\$21,179,419	\$86,149,863	\$168,942,295
Federal government benefits	\$9,055,757	\$41,301,093	\$80,572,549
State/local government benefits	\$3,100,597	\$11,760,391	\$22,592,825
Total forgone benefits (opportunity cost)	\$85,011,777	\$91,652,171	\$103,792,818
Forgone benefits to members (forgone earnings post-taxes)	\$66,093,791	\$66,093,791	\$66,093,791
Forgone tax revenue from members' earnings	\$18,588,810	\$18,588,810	\$18,588,810
Forgone tax revenue federal government	\$13,445,792	\$13,445,792	\$13,445,792
Forgone tax revenue state/local government	\$5,143,018	\$5,143,018	\$5,143,018
Forgone benefits from total investment (all funders)	\$244,579	\$5,178,415	\$14,198,958
Forgone benefits from federal government investment	\$84,597	\$1,791,155	\$4,911,259
Total program net benefits (total program gross benefits – total forgone benefits)	-\$51,676,003	\$47,559,175	\$168,314,851
Net benefits members (member benefits – forgone benefits members)	-\$44,914,372	\$20,056,072	\$102,848,504
Net benefits federal government (federal government benefits – forgone tax revenue to federal government – forgone benefits from federal government investment)	-\$4,474,632	\$23,064,146	\$62,215,498
Program cost	\$40,702,170	\$40,702,170	\$40,702,170
Federal government cost	\$14,078,420	\$14,078,420	\$14,078,420
Non-federal government cost	\$26,623,750	\$26,623,750	\$26,623,750
ROI for total benefits per federal dollar (Total program net benefits / federal government cost)	-\$3.67	\$3.38	\$11.96
ROI for total benefits per funder dollar (Total program net benefits / program cost)	-\$1.27	\$1.17	\$4.14
Federal government benefits per federal dollar (net benefits federal government / federal government cost)	-\$0.33	\$1.61	\$3.76

Table 10 summarizes the ROI results for SBP 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, 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 dollar of investment (or program cost).²⁰ See Appendix B for the formulas used to calculate each ROI calculation.

Table 10. ROI Results for SBP

ROI calculation	ROI scenario		
	Short-term	Medium-term	Long-term
Total benefits per federal dollar	-\$3.67	\$3.38	\$11.96
Total benefits per funder dollar	-\$1.27	\$1.17	\$4.14
Federal government benefits per federal dollar	-\$0.33	\$1.61	\$3.76

SBP produces strong returns for the medium- and long-term scenarios when benefits to SBP AmeriCorps members and federal government benefits 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 1 year post-program are included—ROIs range from -\$3.67 for *total benefits per federal dollar* to -\$0.33 for *federal benefits per federal dollar*. An ROI below the break-even point of \$1 in the first year post-program is common in programs in which there is an initial one-time investment followed by the accrual of program benefits in the following years. It can require several years of benefits to recoup the initial investment and generate positive returns. An ROI of less than \$0 indicates that the combination of opportunity costs and program costs exceeds the amount of funding invested for the period analyzed.

In the medium-term scenario, all stakeholder groups realized a combined return of \$3.38 for every dollar invested by the federal government in SBP. Moreover, for every dollar invested in SBP from all funders, \$1.17 is returned to both members and all levels of government combined. For every dollar invested by the federal government, the federal government alone receives a return of \$1.61.

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* were \$11.96, \$4.14, and \$3.76, respectively.

²⁰ 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.

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

- **Cost savings to the federal government resulting from reduced spending on home reconstruction and temporary housing.** In all three ROI scenarios, SBP reconstruction activities led to cost savings for federal and state/local governments. These cost savings are realized by various federal government agencies that provide funds for disaster relief, including FEMA, and also specific state and local agencies that also fund disaster relief efforts. As noted earlier, although it is likely that private insurance companies and the homeowners themselves experience cost savings from SBP reconstruction activities, those savings are not included in the ROI analysis.
- **Medium- and long-term accumulation of benefits.** In the short-term, two of the ROI calculations result in losses because only 1 year of SBP AmeriCorps members' 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 additional earnings and increased tax revenue that stem from the impacts of SBP AmeriCorps members and SBP program participants. 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 years and 30 years post-program, respectively).
- **The employment outcomes of SBP AmeriCorps members.** According to Friedman et al. (2016), the percentage of AmeriCorps members unemployed was 5 percentage points lower 6 months after serving in AmeriCorps versus 6 months before. This gain in employment results in increased earnings and tax revenue.
- **The educational attainment outcomes of SBP AmeriCorps members.** AmeriCorps State and National members receive education awards after serving in an AmeriCorps program; the award is used by a portion of members to help pay for postsecondary degrees post-service. The additional educational attainment resulting from the use of the education award generates additional lifetime earnings for SBP AmeriCorps members and additional lifetime tax revenue and savings for federal, state, and local governments.

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 SBP programming serves as a catalyst for other funding, specifically that from state and local governments. This additional funding—amounting to about \$5,493,637 for SBP for the 2018–2019 program year—allowed SBP to serve more parents and families 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 SBP and thus to a greater impact as more individuals and families are served.

Recommendations for Further Research

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

Recommendation 1: Determine the persistence of short- and long-term impacts for program participants and AmeriCorps members. The persistence of impacts, such as earnings or employment, is often not measured in evaluations because it requires 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, Friedman et al. (2016) reported the unemployment status of AmeriCorps member alumni 6 months before service, 6 months after service, and during the summer of 2016. The authors indicate that data for the latter timepoint was collected anywhere from 3 to 11 years after service completion depending on the AmeriCorps member alumni cohort (i.e., 2005, 2010, or 2013). The varying data collection periods for the cohorts makes it difficult to measure the duration of benefits. Thus, instead of collecting outcome measures at a time that varies by AmeriCorps member or program participant, studies should track outcomes of interest at the same intervals, multiple times after program or service 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—they have 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 employment and earnings outcomes are of interest, unemployment insurance data—which are submitted by employers—could be used to verify members' wages or employment status post-service. Additionally, 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 what portion of SBP AmeriCorps members pursued higher education and which degrees were completed post-program with the help of the education award. Were degree or employment outcomes data available from third-party data sources (like NSC), 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. For instance, studying how SBP program participation impacts parents' employment status, educational attainment, substance or alcohol use, as well as mental and physical health would result in a more comprehensive ROI estimate.

Recommendation 4: Research SBP's impact on homeowners and the benefits to this stakeholder group. As previously mentioned, this analysis does not account for benefits to homeowners who are beneficiaries of SBP's reconstruction efforts. To understand the full benefit of SBP, more research is needed on those benefits and ways to monetize them. Those benefits may include health benefits from improved air quality following home reconstruction, such as decreased prevalence of asthma. The reduced construction time may yield homeowner benefits related to mental health, improved proximity to work and school, and reduced disruption to children's well-being.

Recommendation 5: Quantify cost savings to homeowners/property owners and private insurance companies. As previously mentioned, this ROI analysis does not account for the savings to homeowners and private insurance companies related to the reconstruction efforts of SBP, namely the lower cost and shorter time frame for housing reconstruction. To include these benefits, data on expenditures for these groups related to disaster reconstruction efforts should be examined further.

Recommendation 6: Research economic impact on communities. Disasters often have substantial negative economic impacts on the affected communities. Additional research could document those impacts and quantify how disaster recovery programs like SBP lessen them.

Conclusion

Based upon these findings, investment in SBP results in favorable impacts under the medium- and long-term scenarios when society and government benefits are both included. Specifically, impacts are realized by the following stakeholder groups in this ROI analysis: SBP AmeriCorps members and the federal government.

The ROI results indicate that the benefits realized across all stakeholder groups outweigh the investment made by the federal government for the medium- and long-term scenarios. Specifically, the combined return to society and government per federal dollar is -\$3.67 under the short-term scenario, \$3.37 under the medium-term scenario, and \$11.96 under the long-term scenario.

When all funding (from the federal government and other funders) is considered, every dollar in funding results in a return of \$1.17 under the medium-term scenario and \$4.13 under the long-term scenario.

Lastly, when considering the ROI to the federal government alone, the short-, medium-, and long-term scenario results are -\$0.33, \$1.61, and \$3.76 in return for every dollar invested, respectively.

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

In Table 11, 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 11. Program Benefits, Forgone Benefits, and Program Costs Included in ROI Calculations

Benefit or cost			Total net benefits per federal dollar	Total net benefits per funder dollar	Federal government net benefits per federal dollar
Benefit	Stakeholder group	Data sources	X indicates inclusion in the ROI numerator		
Decreased costs of home reconstruction	Federal, state, and local governments	<ul style="list-style-type: none"> • SBP • HUD Quarterly Performance Reports • Congressional Research Service report (2019) 	X	X	X
Decreased length of resident displacement	Federal, state, and local governments	<ul style="list-style-type: none"> • SBP • U.S. Census Bureau (2019-a) 	X	X	X

Benefit or cost			Total net benefits per federal dollar	Total net benefits per funder dollar	Federal government net benefits per federal dollar
Increased earnings of national service members due to increased employment and education of AmeriCorps members	AmeriCorps members	<ul style="list-style-type: none"> • SBP • Friedman et al. (2016) • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-a) • U.S. Bureau of Labor Statistics (2019-b) 	X	X	
Increased income tax revenue due to increased earnings of AmeriCorps members	Federal and state governments	<ul style="list-style-type: none"> • Friedman et al. (2016) • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-a) • Tax rate data on Bankrate.com and Loughhead (Tax Foundation, 2020) 	X	X	X

Benefit or cost			Total net benefits per federal dollar	Total net benefits per funder dollar	Federal government net benefits per federal dollar
Increased Social Security and Medicare tax revenue due to increased earnings of AmeriCorps members	Federal government	<ul style="list-style-type: none"> • Friedman et al. (2016) • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-a) • Social Security Administration (2020) 	X	X	X
Increased sales tax revenue due to increased earnings of AmeriCorps members	State and local governments	<ul style="list-style-type: none"> • Friedman et al. (2016) • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-a) • U.S. Bureau of Labor Statistics (2021) • Loughead (Tax Foundation, 2020) 	X	X	
AmeriCorps member living allowances and education awards	AmeriCorps members	<ul style="list-style-type: none"> • SBP 	X	X	

Benefit or cost			Total net benefits per federal dollar	Total net benefits per funder dollar	Federal government net benefits per federal dollar
Reduced spending on lifetime public assistance, corrections, and social insurance due to increased educational attainment of AmeriCorps members	Federal, state, and local governments	<ul style="list-style-type: none"> • Trostel (2015) • Zeidenberg et al. (2016) • U.S. Census Bureau (2019-a) 	X	X	X
Forgone benefits (opportunity cost)	Payer	Data sources	X indicates inclusion in the ROI denominator		
Opportunity costs of forgone market wages for AmeriCorps members	AmeriCorps members	<ul style="list-style-type: none"> • SBP • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-b) 	X	X	X

Benefit or cost			Total net benefits per federal dollar	Total net benefits per funder dollar	Federal government net benefits per federal dollar
Opportunity costs of federal taxes on forgone market wages for AmeriCorps members (e.g., federal income and Social Security taxes)	Federal government	<ul style="list-style-type: none"> • SBP • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-a) • U.S. Bureau of Labor Statistics (2019-b) • Tax rate data on Bankrate.com and Loughhead (Tax Foundation, 2020) • Social Security Administration (2020) 	X	X	X

Benefit or cost			Total net benefits per federal dollar	Total net benefits per funder dollar	Federal government net benefits per federal dollar
Opportunity costs of state and local taxes on forgone market wages for AmeriCorps members (e.g., state income and state/local sales taxes)	State and local governments	<ul style="list-style-type: none"> • SBP • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-a) • U.S. Bureau of Labor Statistics (2019-b) • U.S. Bureau of Labor Statistics (2021) • Loughhead (Tax Foundation, 2020) 	X	X	X
Opportunity costs of federal funders	Federal government	<ul style="list-style-type: none"> • AmeriCorps • U.S. Department of the Treasury (2019) 	X	X	X
Opportunity costs of other program funders	Non-government funders	<ul style="list-style-type: none"> • SBP • U.S. Department of the Treasury (2019) 		X	

Benefit or cost			Total net benefits per federal dollar	Total net benefits per funder dollar	Federal government net benefits per federal dollar
Program cost	Payer	Data sources	X indicates inclusion in the ROI denominator		
AmeriCorps grant costs (excluding living allowances and education awards provided to AmeriCorps members)	Federal government (AmeriCorps)	<ul style="list-style-type: none"> AmeriCorps 	X	X	X
AmeriCorps member living allowances and education awards	Federal government (AmeriCorps)	<ul style="list-style-type: none"> AmeriCorps 	X	X	X
SBP costs	SBP	<ul style="list-style-type: none"> SBP 		X	
State and local government funding	State and local governments	<ul style="list-style-type: none"> SBP 		X	
Other non-government costs	Non-government funders	<ul style="list-style-type: none"> SBP 		X	

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 SBP included the following steps:

- Measuring and monetizing program benefits to SBP AmeriCorps members 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 SBP.

Although SBP AmeriCorps members experience positive benefits from SBP 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 2021 dollars.²¹ 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 SBP AmeriCorps members' 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 2021 dollars. This scenario also assumes the entire net present value of lifetime benefits is realized.

²¹ 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.²² 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 estimating ROI for SBP is to measure and monetize the program benefits. SBP AmeriCorps members and various levels of government benefit from SBP. 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 SBP AmeriCorps Members

The SBP AmeriCorps members who provide services as part of SBP experience benefits due to their national service. This analysis estimated the following benefits:

- Living allowance and education award
- Increased earnings due to reduced unemployment
- Increased lifetime earnings due to increased postsecondary education derived from the use of education awards

Living Allowance and Education Award

Living allowances are given to AmeriCorps members during their 1-year service term to pay for various living expenses—such as housing and groceries—and they sometimes include members' workers' compensation and health insurance when applicable. Regarding education awards, according to Friedman et al. (2016), a significant portion (i.e., 46 percent) of AmeriCorps State and National member alumni use them to pay for additional postsecondary education at colleges, graduate schools, and technical/vocational schools, while others (i.e., 33 percent) use them to pay off outstanding student loans. The remaining 21 percent do not use their education awards.

Both the living allowances and education awards (considered one-time benefits that are not discounted or spread over time) are taxable and represent member benefits. However, only the portion of education awards used by members to pay off existing student loans is considered a direct member benefit. The portion that is utilized to

²² These three scenarios consider varying durations of how long increased employment and earnings benefits last for SBP AmeriCorps members. They also consider varying durations for lifetime benefits that stem from the SBP program. For example, lifetime benefits in terms of decreased public assistance, social insurance, and corrections costs result from SBP AmeriCorps members' 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.

pursue further postsecondary education is only used in calculating members' additional lifetime earnings due to the increased educational attainment they experience post-service from using the education award. This is done to avoid double counting. This analysis included the post-tax values of the living allowance and the portion of the education award used to repay student loans as SBP AmeriCorps member benefits, which are listed in Table 12. The portion of the education award used to fund additional postsecondary education is discussed in the following section.

Table 12. SBP AmeriCorps Member Benefits From the Living Allowance and Education Award

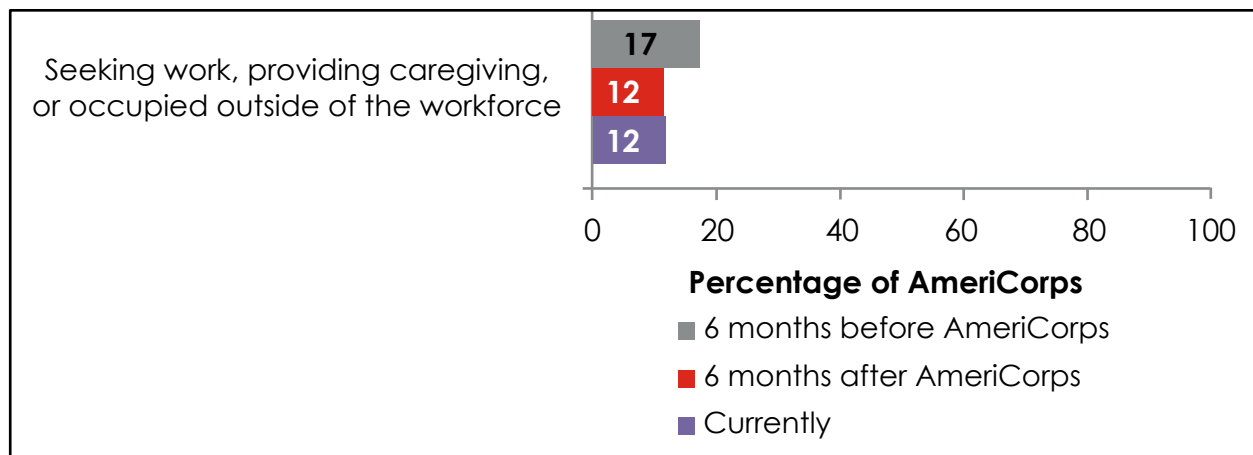
Benefit	Post-tax value	Notes
Living allowance	\$2,857,762	Post-tax living allowances members receive during service
Education award used to pay off student loans	\$3,759,965	Post-tax education award amount used to pay off outstanding student loans
Total	\$ 6,617,727	

Source: Friedman et al. (2016)

Increased Earnings Due to Reduced Unemployment

According to Friedman et al. (2016), the percentage of AmeriCorps members unemployed was 5 percentage points lower 6 months after serving in AmeriCorps compared to 6 months before serving. The study did not provide actual employment rates for AmeriCorps members pre- and post-service, but instead provided the unemployment rates shown in Figure 2 (17 percent vs. 12 percent) in which the change between them represents a 5-percentage-point decrease.

Figure 4. Unemployment Status Results From Friedman et al. (2016)²³



Source: Friedman et al. (2016)

²³ "Currently" refers to the summer 2016 survey. Respondents were from the 2005, 2010, and 2013 AmeriCorps cohorts, so respondents varied in how much time had elapsed since their AmeriCorps service.

A direct member benefit from being employed post-service is additional income earned. To monetize this 5-percentage-point decrease in unemployment, ICF requested that SBP provide the gender, age, pre-service educational attainment, and race/ethnicity distribution of AmeriCorps members who served with the SBP program for the most recent program year. Based on those demographics, the analysis used annual average earnings data from the Current Population Survey’s Annual Social and Economic (ASEC) Supplement for March 2019 to estimate SBP AmeriCorps members’ additional earnings due to the reduced unemployment (U.S. Census Bureau, 2019-c).

Specifically, the analysis used ASEC data to calculate the per-person pre-tax average annual earnings for 18- to 34-year-olds weighted by the demographic distribution of SBP AmeriCorps members who served during the 2018–2019 program year. This value was \$40,576 as shown in Table 13. The analysis then multiplied the 5-percentage-point decrease in unemployment from Friedman et al. (2016) by the number of SBP AmeriCorps member full-time equivalents (FTEs) who served during the most recent program year (i.e., 2,293). This estimated the number of *additional* SBP AmeriCorps member FTEs employed due to national service (i.e., 115). To estimate the additional pre-tax earnings that stemmed from the reduced unemployment, the \$40,576 annual earnings amount was multiplied by the additional number of SBP AmeriCorps members employed post-service. This represents the additional income earned by SBP AmeriCorps members due to serving with SBP.

Table 13. Additional Pre-Tax Earnings for SBP AmeriCorps Members From Reduced Unemployment Based on SBP AmeriCorps Member Demographics

Metric	Value (2019\$)
Average per-person pre-tax annual earnings of employed 18- to 34-year-olds weighted by SBP AmeriCorps member demographics (e.g., gender, race/ethnicity, and pre-service education level)	\$40,576
Reduction in AmeriCorps members’ unemployment	5%
Total expected increase in earnings, per member	\$2,029
SBP AmeriCorps member FTEs	2,293
Cumulative additional pre-tax earnings	\$4,650,990*
Cumulative additional post-tax earnings	\$3,777,371

*This value is undiscounted; thus, the values do not sum in the table.
Sources: SBP (2022), Friedman et al. (2016), and U.S. Census Bureau (2019-c)

To avoid double counting, the additional *post-tax* earnings is used to calculate the direct benefit to SBP AmeriCorps members, rather than the additional *pre-tax* earnings. The post-tax annual earnings in Table 13 excludes payroll taxes (e.g., federal and state income, Social Security, and Medicare). The payroll tax rates used are described in more detail in the Benefits to Government section.

Based on these calculations, the cumulative additional post-tax earnings for SBP AmeriCorps members for the three different scenarios—discounted to 2019 dollars using data from the Office of Management and Budget (2003)—are shown in Table 14. These

monetary amounts represent the additional post-tax earnings realized due to the employment gain that is solely attributed to SBP.

Table 14. Cumulative Additional Post-Tax Earnings Derived From Reduced Unemployment Due to Serving With SBP by Scenario

Scenario	Cumulative additional post-tax earnings due to serving with SBP (2019\$)
Short-term	\$4,650,990
Medium-term	\$69,621,434
Long-term	\$152,413,865

Sources: SBP, Friedman et al. (2016), U.S. Census Bureau (2019-c), and Office of Management and Budget (2003)

Increased Lifetime Earnings Due to Increased Postsecondary Education Derived From the Use of Education Awards

The AmeriCorps education award pays for some portion of members' increased postsecondary educational attainment, and the future earnings derived from that educational attainment is treated as a direct benefit to SBP AmeriCorps members. To calculate the portion of members' increased educational attainment that is attributable to SBP, 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 represents (i.e., \$5,234 represents \$6,155 before taxes²⁴). The analysis used these percentages to estimate the lifetime benefits of postsecondary 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, 4-year academic institution during the 2018–2019 academic year was \$24,869. This amounts to more than \$100,000 for four years if expressed in 2019 dollars. The \$4,857 post-tax

Additional earnings derived from SBP AmeriCorps members' *reduced unemployment* were calculated annually and then discounted based on the short-term, medium-term, and long-term scenarios in net present 2019 dollars.

For additional earnings derived from SBP AmeriCorps members' *increased postsecondary 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 2019 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 1 year post-program (i.e., in the short-term scenario).

²⁴ This analysis used the 2020 to 2021 AmeriCorps education award amount (\$6,345) but discounted it to net present 2019 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>.

education award only represents 5 percent of the cost of that degree, so SBP, accordingly, could only be credited with 5 percent of the completion of SBP AmeriCorps members' bachelor's degrees post-service.

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

Degree type ²⁵	Average cost (2019\$)	Percentage of degree total cost covered by post-tax education award
Some college	\$30,824	15.8%
Bachelor's degree	\$101,948	4.8%
Graduate degree	\$24,342	20.0%

Sources: AmeriCorps (n.d.), U.S. Bureau of Labor Statistics (2019-a), NCES (2019), and NCES (2020)

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 postsecondary degrees estimated to be completed by degree type. The 2,293 SBP AmeriCorps member FTEs who served during the 2018–2019 program year were distributed by the education award use findings listed in Friedman et al. (2016) across the degree types. Specifically, Friedman et al. (2016) reported 46 percent of AmeriCorps State and National member alumni used their education award to pursue postsecondary degrees after program completion. This makes the number of SBP AmeriCorps member FTEs expected to use the education award to pursue additional postsecondary education roughly equal to 1,055. Specifically, Friedman et al. (2016) indicated that the 46 percent comprises 2 percent using the education award to attend a technical or vocational training program, 21 percent using it to obtain a bachelor's degree, and 23 percent using it for graduate school.²⁶ This results in the number of SBP AmeriCorps members estimated to *pursue*—due to using the education award—an associate degree, a bachelor's degree, or a graduate degree post-service to be roughly 46, 482, and 527, respectively. These values are shown in Table 16.

²⁵ 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 include tuition and required fees for a public, in-state, 2-year graduate program.

²⁶ This analysis considers the use of the education award to attend a technical or vocational training program from Friedman et al. (2016) to be synonymous with using it to pursue an associate degree.

Table 16. Estimates of the Number of Postsecondary Degrees Pursued Using the Education Award by Degree Type

Degree type	Total SBP AmeriCorps member FTE count	Percentage estimated to pursue postsecondary education according to Friedman et al. (2016)	Number of degrees pursued using the education award
Associate degree	2,293	2%	45.9
Bachelor's degree	2,293	21%	481.5
Graduate degree	2,293	23%	527.4
All degrees	—	46%	1,055

Note: Numbers may not sum due to rounding.

Sources: AmeriCorps (n.d.), SBP (2022), U.S. Bureau of Labor Statistics (2019-a), SBP, Friedman et al. (2016), NCES (2020), and NCES (2019)

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 Trostel (2015), which is shown in the fifth column of Table 17.²⁷ For instance, using Trostel (2015) data, the lifetime earnings 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 17) 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 postsecondary degree types to conservatively estimate the additional lifetime earnings realized by SBP AmeriCorps members due to an increase in postsecondary educational attainment. Trostel (2015) also included data on lifetime taxes paid, which was then used to estimate the post-tax lifetime earnings that would be realized per additional postsecondary 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 SBP AmeriCorps members.

²⁷ 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.

Table 17. Additional Earnings From AmeriCorps Members' Use of the Education Award

Degree type	Percentage of SBP AmeriCorps members expected to pursue postsecondary education	FTE SBP AmeriCorps members	Percentage of degree tuition covered by education award	Additional lifetime earnings of the degree (pre-tax)	Additional lifetime earnings from education award (pre-tax)	Additional lifetime earnings from education award (post-tax)
Expected to not use award for postsecondary education	54%	1,238	N/A	N/A	N/A	N/A
Associate degree	2%	46	15.8%	\$170,286	\$1,230,449	\$625,966
Bachelor's degree	21%	482	4.8%	\$526,201	\$12,070,798	\$6,510,599
Graduate degree	23%	527	20.0%	\$467,083	\$49,148,417	\$30,565,412
Total	100%	2,293	—		\$62,449,664	\$37,701,976

Note: Numbers may not sum due to rounding.

Sources: AmeriCorps (n.d.), U.S. Bureau of Labor Statistics (2019-a), SBP, Friedman et al. (2016), NCES (2020), NCES (2019), and Trostel (2015)

To isolate the increase in additional lifetime earnings specific to members using the education award, the number of SBP AmeriCorps members who used the education award for this purpose by degree type was reduced by the percentage of the degree cost that can be covered by the post-tax education award received post-service, displayed in the fourth column of Table 17. Then, this amount is applied to the 2019 additional lifetime earnings by degree type to calculate the additional lifetime earnings realized by AmeriCorps members from their increase in postsecondary educational attainment that is credited to the use of the education award post-service. The additional lifetime earnings amount is roughly \$62 million across the FTE SBP AmeriCorps members. Of note, these lifetime earnings are in addition to the earnings derived from SBP AmeriCorps members' gains in employment as delineated in the subsequent section. To reiterate, the earnings from SBP AmeriCorps members' reduced unemployment differs depending on the scenario (i.e., short-term, medium-term, and long-term) since it is uncertain how long these earnings will persist. For the net 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.

Benefits to Government

State and Local Government

State and local government benefits from:

- Additional state income tax revenue from SBP AmeriCorps members' increased earnings due to reduced unemployment
- Additional lifetime state and local taxes due to SBP AmeriCorps members' increased postsecondary educational attainment²⁸
- Additional lifetime state and local taxes due to SBP program participants' increased secondary educational attainment²⁹
- Additional state and local taxes from the living allowance and education award received by these members
- Additional state and local sales tax revenue from SBP AmeriCorps members' increased consumption due to reduced unemployment
- Reduced lifetime spending on social insurance and corrections³⁰ due to SBP AmeriCorps members' increased postsecondary educational attainment
- Decreased government spending on construction
- Decreased government spending on housing displaced families

The methodology of the main report provides a detailed description of government benefits derived from SBP construction activities (reduced spending on construction and housing displaced families). All other benefits are discussed further below.

²⁸ 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.

²⁹ Ibid.

³⁰ Reduced spending on public assistance due to SBP AmeriCorps members' increased postsecondary 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., TANF, etc.).

State income tax revenue: To measure income tax revenue generation that stems from reduced unemployment for state governments (any local income taxes are not included), the additional pre-tax earnings of SBP AmeriCorps members that are solely attributed to SBP 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 SBP AmeriCorps member divided by their pre-tax earnings. This analysis then calculated the weighted average of these state-specific tax rates—using these states' populations from the 5-year estimates of the 2019 American Community Survey—to estimate a weighted national tax rate (U.S. Census Bureau, 2019-a). A weighted national tax rate was used because SBP AmeriCorps members may disperse to various locations nationwide following their service terms and continue to migrate over the course of their working years.

Additional tax revenue derived from SBP AmeriCorps members' *reduced unemployment, living allowances, and education awards* was calculated using tax rates specific to each per-person monetary amount.

For additional tax revenue derived from SBP AmeriCorps members' *increased postsecondary educational attainment*—due to using education awards—as well as from SBP program participants' *increased secondary educational attainment*, Trostel (2015) did not provide specific tax rates. Therefore, this analysis treated the increases in tax revenue as lifetime values expressed in 2019 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 1 year post-program (i.e., in the short-term scenario).

Lifetime state income tax revenue values are also provided by Trostel (2015) by education level. Based on the number of postsecondary degrees estimated to be obtained due to the use of the education award received after serving with the SBP program, additional lifetime state income taxes are realized. Thus, the additional lifetime state income taxes paid values—informed by data from Trostel (2015)—were first converted to 2019 dollars. The analysis then multiplied them by the inferred number of degrees obtained using the education award.

State governments also receive state income taxes from the education awards SBP AmeriCorps members receive post-service. The analysis estimated the pre-tax education award amount in 2019 dollars (i.e., \$6,120).³¹ Then the analysis multiplied it by the number of SBP AmeriCorps member FTEs expected to redeem the award and use it to pursue postsecondary education or to repay outstanding student loans, based on

³¹ This analysis used the 2020 to 2021 AmeriCorps education award amount (\$6,345) but discounted it to net present 2019 dollars using the Consumer Price Index. For more information about this education award, please see <https://americorps.gov/members-volunteers/segal-americorps-education-award/find-out-more>.

findings from Friedman et al. (2016). The result represents the pre-tax cumulative education award amount expected to be received by SBP AmeriCorps members. 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. Additionally, state income taxes were estimated for the living allowance amount received by SBP AmeriCorps members during their service term using tax rates specific to the per-person value. The different rates used for these member benefits are enumerated in Table 19.

State and local sales tax revenue: To measure sales tax revenue generation for state and local governments that stems from reduced unemployment, a weighted state and local sales tax rate was applied to the amount of SBP AmeriCorps members' cumulative additional *post-tax* earnings that are available to be spent on taxable goods. To establish a weighted state and local sales tax, 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, 2019-a), 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 additional post-tax earnings as a result of reduced unemployment 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.³² 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 SBP AmeriCorps members. This value was 41.3 percent. This proportion was then applied to SBP AmeriCorps members' 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 SBP AmeriCorps members' reduced unemployment 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 SBP AmeriCorps members using their education award to achieve higher postsecondary educational attainment post-service. These values represent a direct benefit to state and local governments in the form of increased tax revenue.

³² To calculate the estimated taxable expenditures, Consumer Expenditure Survey (CE) 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 SBP AmeriCorps members 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>.

State and local government cost savings: State and local governments also benefit from SBP programming through lifetime savings in social insurance and corrections—as reported in Trostel (2015)—due to the increase in SBP AmeriCorps members' postsecondary 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 calculated 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 postsecondary degrees estimated to be obtained due to the use of the education awards.

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). Specifically, this report found that 8.4 percent of U.S. corrections 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 SBP AmeriCorps members experiencing an increase in postsecondary educational attainment 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 SBP AmeriCorps members' increased earnings due to reduced unemployment
- Additional federal income, Social Security, and Medicare taxes from the living allowance and education award received by these members
- Additional lifetime federal taxes due to SBP AmeriCorps members' increased postsecondary educational attainment
- Additional lifetime federal taxes due to SBP program participants' increased secondary educational attainment
- Reduced lifetime spending on public assistance, social insurance, and corrections due to SBP AmeriCorps members' increased postsecondary educational attainment
- Decreased government spending on construction
- Decreased government spending on housing displaced families

The methodology of the main report provides a detailed description of government benefits derived from SBP construction activities (reduced spending on construction and housing displaced families). All other benefits are discussed further below.

Federal income tax revenue: To measure federal income tax revenue that stems from reduced unemployment, the additional pre-tax earnings of SBP AmeriCorps members that are solely attributed to SBP—as well as the pre-tax living allowance and education award amounts received by SBP AmeriCorps members—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). The specific federal income tax rates used for these different benefits are enumerated in Table 19. Of note, different tax rates were used because they were specific to the per-person pre-tax earnings, living allowance, and education award amounts.

For the additional lifetime earnings of SBP AmeriCorps members that is based on their increase in postsecondary educational attainment—fueled by the use of the education award—Trostel (2015) provides additional lifetime federal income tax values.

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 SBP AmeriCorps members from their reduced unemployment and as a result of the pre-tax living allowances and education awards amounts received by members. 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 SBP AmeriCorps members to calculate the additional amount of revenue the federal government receives. These same rates are also applied to the living allowance and education award amounts received by SBP AmeriCorps members to calculate additional tax revenue. Moreover, additional lifetime Social Security tax revenue realized for the federal government—as a result of SBP AmeriCorps members using their education award to complete a higher education degree type post-service—is provided by Trostel (2015).

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

Table 18 shows the lifetime costs to the federal versus the state and local governments for each of these areas—where applicable—by education level in 2012 dollars as presented in Trostel (2015). The differences in these lifetime costs from one education level to the next represent cost savings per degree obtained.

Table 18. Government Costs by Educational Attainment Level per Individual's Lifetime

Source of government cost	Associate degree (2012\$)	Bachelor's degree (2012\$)	Graduate degree (2012\$)
Public assistance	\$31,803	\$14,480	\$9,394
Social insurance	\$8,209	\$5,863	\$4,732
Federal	\$3,570	\$2,660	\$2,090
State/local	\$4,639	\$3,204	\$2,643
Corrections	\$4,055	\$1,190	\$725
Federal	\$341	\$100	\$61
State/local	\$3,714	\$1,090	\$664

Source: Trostel (2015)

Note: Numbers may not sum due to rounding.

As mentioned earlier in this appendix, as a result of SBP, the analysis estimated an additional 1,055 SBP AmeriCorps members would redeem the education award to *pursue* additional postsecondary education. Based on the portion of degree costs covered by the post-tax education award, this analysis calculated that an additional associate degree, bachelor's degree, and graduate degree would be *obtained* due to SBP. To conservatively calculate the federal government's lifetime savings associated with these education gains, the differences between the public assistance, federal social insurance, and federal corrections lifetime costs for these education levels and those that precede them are calculated and then expressed in 2019 dollars. These values are then multiplied by the number of additional postsecondary degrees estimated to be obtained—where appropriate—to represent the total cost savings realized by the federal government due to the SBP program. As previously mentioned where 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 more than 8 percent of the lifetime cost savings in corrections (Hyland, 2015). These federal government savings are shown in Table 20.

Table 19 shows the tax rates applied to SBP AmeriCorps members' additional pre-tax and post-tax earnings (derived from reduced unemployment), depending on the type of revenue being calculated. It also enumerates the tax rates used for the pre-tax living allowance and education award amounts received by SBP AmeriCorps members during their service term or upon service completion, respectively.

Table 19. 2020 Tax Rates and Ratio of Taxable Expenditures for SBP AmeriCorps Members' Earnings, Living Allowances, and Education Awards

Metric	Rate for additional earnings & education award*	Rate for living allowance & education award**	Notes
Estimated proportional federal income tax	8.11%	0.00%	<ul style="list-style-type: none"> Tax rates are used that consider the progressive tax brackets and standard deductions specific to federal income taxes. These rates are dependent on and applied to the pre-tax value of each metric being taxed.
Estimated proportional state income tax	3.20%	1.15%	<ul style="list-style-type: none"> Tax rates are used that 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. These rates are dependent on and applied to the pre-tax value of each metric being taxed.
Social Security tax	6.20%	6.20%	<ul style="list-style-type: none"> Social Security tax rate for employees and employers. These rates are applied to the pre-tax value of each metric being taxed.
Medicare tax	1.45%	1.45%	<ul style="list-style-type: none"> Medicare tax rate for employees and employers. These rates are applied to the pre-tax value of each metric being taxed.
Sales tax	7.43%; N/A to the education award	7.43%; N/A to the education award	<ul style="list-style-type: none"> The combined state and average local tax rate for each state was summed and weighted based on states' populations to calculate a national weighted average sales tax rate. The rate is applied to the additional post-tax earnings of members as well as their post-tax living allowance amount.

Metric	Rate for additional earnings & education award*	Rate for living allowance & education award**	Notes
Ratio of taxable expenditures per national consumer	41.29%; N/A to the education award	57%; N/A to the education award	<ul style="list-style-type: none"> Percentage of post-tax earnings spent on taxable goods and services that is used to calculate sales tax from post-tax earnings. Ratio is dependent on the pre-tax value of members' additional earnings or the pre-tax living allowance amount.

*These rates are only used for the portion of the education award used to repay outstanding student loans.

**These rates are only used for the portion of the education award used for additional schooling.

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

Summary of Benefits to Government

Table 20 shows the amount of tax revenue generated and savings in expenditures for state and local versus federal government that are solely credited to SBP 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 SBP program impacts.

Table 20. State/Local and Federal Government Benefits by Stakeholder Group and by Scenario

Benefit type	Benefit		
	Long-term	Medium-term	Short-term
State/local government benefits	\$22,592,825	\$11,760,391	\$3,100,597
State income tax revenue	\$6,359,310	\$3,320,905	\$677,741
State and local sales tax revenue	\$6,946,868	\$3,463,563	\$829,727
Savings in unemployment insurance	\$3,101,370	\$1,416,681	\$94,640
State and local savings in corrections spending	\$4,834,310	\$2,208,274	\$147,522
State and local construction-related savings	\$1,350,967	\$1,350,967	\$1,350,967
Federal government benefits	\$80,572,549	\$41,301,093	\$9,055,757

Benefit type	Benefit		
	Long-term	Medium-term	Short-term
Federal income tax revenue	\$19,872,845	\$10,377,829	\$1,444,677
Federal Social Security and Medicare tax revenue	\$15,202,726	\$7,939,093	\$1,154,236
Savings in Medicare, SNAP, etc.	\$37,824,526	\$17,277,941	\$1,154,236
Federal savings in unemployment insurance	\$3,101,370	\$1,416,681	\$94,640
Federal savings in corrections	\$518,179	\$236,700	\$15,813
Federal construction-related savings	\$4,052,902	\$4,052,902	\$4,052,902
Total	\$103,165,374	\$53,061,484	\$12,156,354

Note: Numbers may not sum due to rounding.

Measuring Forgone Benefits (Opportunity Costs)

The analysis included two types of forgone benefits, referred to as *opportunity costs*, in each of the three ROI calculations to conservatively estimate the return of SBP programming: forgone benefits from a professional opportunity cost to SBP AmeriCorps members and forgone benefits from an investment opportunity cost to funders. Each of these forgone benefit (opportunity cost) types is subtracted from the total program benefits—that stem from SBP programming—to calculate net benefits. Net benefits are then compared to the program cost to calculate each ROI. The methodologies used to calculate these two forgone benefits (opportunity costs) are described below.

Forgone Benefits From Professional Opportunity Cost to SBP AmeriCorps Members

There is a professional opportunity cost to SBP AmeriCorps members for their period of national service, during which they could have otherwise been working. This includes both the forgone earnings of SBP AmeriCorps members for their service term and the forgone taxes associated with those lost earnings. To calculate this, the analysis first used the demographic distribution of SBP AmeriCorps members for the 2018–2019 program year—in terms of gender, age, race/ethnicity, and pre-service education level—and ASEC data to estimate the weighted unemployment rate for this population (i.e., 5.3 percent). This represents how many of these SBP AmeriCorps members would have been unemployed if they did not serve with SBP. Using the weighted unemployment rate and the number of SBP AmeriCorps member FTEs who served during the 2018–2019 program year, the analysis estimated the number of members who would have been employed without serving with SBP based on their demographic characteristics. Then the analysis multiplied this value by the weighted post-tax annual earnings. This is derived from the pre-tax annual earnings listed in Table 13. The methodology used to calculate this latter monetary amount is described in the previous

Increased Earnings Due to Reduced Unemployment section. The post-tax amount subtracts all applicable payroll taxes (e.g., federal income, state income, Medicare, and Social Security). Combined, these values represent what SBP AmeriCorps members would have earned in total if they did not serve in SBP. Separately, the analysis then multiplied the number of FTE SBP AmeriCorps members who served by the amount they earned during their national service in the form of a living allowance (i.e., \$1,467 per person). This represents the aggregate amount SBP AmeriCorps members earned during their service term. The difference between what they would have earned if they did not serve and what they did earn because they served equals the total post-tax earnings forgone due to serving in SBP. These values and the formula used to calculate these forgone post-tax earnings are shown in Table 22.

Table 21. Forgone Earnings of SBP AmeriCorps Members for a Service Term

Row	Component	Value	Source
A	SBP AmeriCorps member FTEs	2,293	SBP (2022)
B	Weighted unemployment rate	5.3%	U.S. Census Bureau. (2019-c) & SBP
C	Weighted post-tax annual earnings per person	\$40,576	U.S. Census Bureau. (2019-c), U.S. Bureau of Labor Statistics. (2019-a), & SBP
D	Gross earnings from AmeriCorps stipend per person	\$1,467	SBP
E	Total net earnings forgone	\$84,682,601	$[A \times (1 - B) \times C] - (A \times D)$

Note: Numbers may not sum due to rounding.

The second portion of this professional opportunity cost was the forgone taxes associated with the earnings of SBP AmeriCorps members lost for this year of service. Federal income, state income, Social Security, and Medicare taxes specific to the per-person weighted pre-tax earnings amount were calculated. Specifically, the estimated proportional federal and state income tax rates used were 8 percent and 3 percent, respectively. The analysis also estimated the sales taxes lost based on the per-person post-tax earnings forgone by the SBP AmeriCorps members. Using data from the Consumer Expenditure Survey (U.S. Bureau of Labor Statistics, 2021), the analysis estimated that based on the per-person weighted pre-tax earnings of SBP AmeriCorps members (i.e., \$40,576), 41 percent of their income would have been spent on taxable goods, as opposed to 57 percent of the living allowance. 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 the difference in expected spending on taxable goods to represent the resulting sales tax revenue lost due to individuals serving with SBP instead of working for higher pay. The totals for these taxes are listed in Table 22.

Table 22. Forgone Taxes Associated With the Forgone Earnings of SBP AmeriCorps Members for a Service Term

Forgone taxes	Taxes without service term	Taxes realized from living allowance	Net taxes forgone
Federal income taxes	\$6,967,573	\$0	\$6,967,564
Social Security and Medicare taxes	\$6,735,557	\$257,338	\$6,478,219
State income taxes	\$2,613,801	\$108,347	\$2,505,454
Sales taxes	\$2,669,663	\$140,446	\$2,529,217
Total taxes	\$18,986,593	\$506,130	\$18,480,463

Note: Numbers may not sum due to rounding.

For 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 SBP—in this ROI calculation. The parts of the professional opportunity cost subtracted from these total federal government benefits include the forgone net federal income taxes (i.e., \$6,967,564) and the net forgone Social Security and Medicare taxes (i.e., \$6,478,219). The sum of these two values is called the *federal professional opportunity cost*. The sum of all the values listed in Table 22 and the forgone post-tax earnings of SBP AmeriCorps members is called the *total professional opportunity cost*. These naming conventions are referenced in the Calculating ROI section.

Forgone Benefits From the Investment Opportunity Cost to Funders

The investment opportunity cost estimates the expected forgone return if funds used to support the activities and positions of SBP AmeriCorps members during the most recent program year were invested in U.S. Treasury bonds instead. An investment opportunity cost is calculated for two different funding streams: 1) all SBP program funding for the 2018–2019 program year and 2) only federal funding for the same program year. This is done because two of the three ROI calculations only have federal (not total) program costs included. Thus, 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. For the other ROI calculation, the investment opportunity cost subtracted from the benefits realized is the forgone accrued interest from investing *all* SBP program funds (both federal and non-federal) into these U.S. Treasury bonds. Therefore, the analysis estimated forgone accrued interests across all three scenarios when 1) all SBP program funds and 2) only federal SBP program funds are invested in U.S. Treasury bonds.

To calculate these forgone accrued interest values, the analysis first matched real interest rates provided by the Office of Management and Budget (2020) to each of the scenarios included in this ROI analysis. 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 0.6 percent, 0.8 percent, and 1.0 percent, respectively (Office of Management and Budget, 2020). Also, the number of years elapsed on these U.S. Treasury bonds was equal to the number of years the different scenarios assumed SBP AmeriCorps members' employment and earnings gains were sustained. These values are 1 year, 15 years, and 30 years for the short-term, medium-term, and long-term scenarios, respectively. Given that U.S. Treasury bonds compound biannually, according to the U.S. Department of the Treasury (2019), the formula used to calculate the forgone accrued interest for each of the three scenarios for the two funding streams is listed in Figure 5, where A equals the forgone accrued interest (e.g., 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 5. 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 benefits from the investment opportunity cost calculated by scenario and funding stream are listed in Table 23, 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 23. Forgone Benefits From 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	0.6%		0.8%		1.0%	
Years elapsed	1		15		30	
Funding amount	\$40,702,170	\$14,078,420	\$40,702,170	\$14,078,420	\$40,702,170	\$14,078,420
Forgone return (accrued interest)	\$8,014,046	\$2,771,968	\$5,178,415	\$1,791,155	\$14,198,958	\$4,911,259

Note: The real interest rates used are the 2018 real interest rates due to the fact that the SBP program year commenced in 2018.

Measuring Program Costs

Table 24 shows the costs of SBP by funding source.

Table 24. Funding Sources and Amounts for SBP (2018–2019)

Funding source	Amount	Percentage of total
Cost categories	\$31,208,822	100%
Operating (including construction-related expenses and in-kind labor)	\$23,417,516	75%
AmeriCorps member expenses	\$3,363,892	11%
Non-AmeriCorps member expenses	\$6,052,538	19%
Other	-\$1,624,764*	-5%
Funding sources	\$29,619,288	100%
AmeriCorps	\$2,995,538	10%
State/local funding	\$5,493,637	19%
Other	\$1,412,895	5%
Private	\$19,717,218	67%

*The “Other” funding identified in the cost category includes the construction work-in-progress value for SBP during the 2018–2019 program year.³³

Note: Numbers may not sum due to rounding.

Source: SBP (2022)

Calculating ROI

To complete the three ROI calculations for SBP, the sum of applicable program benefits is reduced by the forgone benefits, or 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.

Since two of the calculations include benefits to society (e.g., SBP AmeriCorps members), 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 dollar of investment (or program cost).³⁴

³³ The construction work-in-progress value accounts for the costs incurred to date compared to the project budget and percentage of the project that has been completed. This value can show if the project is either over-billing or under-billing to date.

³⁴ 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.

The formulas used to calculate each of the three ROIs are shown below:³⁵

$$\text{Total Benefits per Federal Dollar} = \frac{(\text{Benefits to Non-Government Stakeholders} + \text{Benefits to Government}) - (\text{Forgone Benefits From Total Professional Opportunity Cost} + \text{Forgone Benefits From Federal Investment Opportunity Cost})}{(\text{AmeriCorps Federal Funding})}$$

$$\text{Total Benefits per Funder Dollar} = \frac{(\text{Benefits to Non-Government Stakeholders} + \text{Benefits to Government}) - (\text{Forgone Benefits From Total Professional Opportunity Cost} + \text{Forgone Benefits From Total Investment Opportunity Cost})}{(\text{AmeriCorps Federal Funding} + \text{Non-Federal Match Funding})}$$

$$\text{Federal Government Benefits per Federal Dollar} = \frac{(\text{Benefits to the Federal Government}) - (\text{Forgone Benefits From Federal Professional Opportunity Cost} + \text{Forgone Benefits From Federal Investment Opportunity Cost})}{(\text{AmeriCorps Federal Funding})}$$

Table 25, Table 26, and Table 27 show the total benefits, opportunity costs, program costs, and ROI results for each scenario.

Table 25. ROI Calculations for Short-Term Scenario

Components	Total benefits per federal dollar (2019\$)	Total benefits per funder dollar (2019\$)	Federal government benefits per federal dollar (2019\$)
Total program benefits	\$33,335,774	\$33,335,774	\$9,055,757
Total forgone benefits (opportunity costs)	\$13,690,371	\$85,011,777	\$13,690,371
Total program costs	\$14,078,420	\$40,702,170	\$14,079,420
Result	-\$3.67	-\$1.27	-\$0.33

³⁵ Non-government stakeholders in this ROI analysis include SBP AmeriCorps members.

Table 26. ROI Calculations for Medium-Term Scenario

Components	Total benefits per federal dollar (2019\$)	Total benefits per funder dollar (2019\$)	Federal government benefits per federal dollar (2019\$)
Total program benefits	\$139,211,346	\$139,211,346	\$41,301,093
Total forgone benefits (opportunity costs)	\$18,624,207	\$91,652,171	\$18,624,207
Total program costs	\$14,078,420	\$40,702,170	\$14,078,420
Result	\$3.38	\$1.17	\$1.61

Table 27. ROI Calculations for Long-Term Scenario

Components	Total benefits per federal dollar (2019\$)	Total benefits per funder dollar (2019\$)	Federal government benefits per federal dollar (2019\$)
Total program benefits	\$272,107,669	\$272,107,669	\$80,572,549
Total forgone benefits (opportunity costs)	\$27,644,750	\$103,792,818	\$27,644,750
Total program costs	\$14,078,420	\$40,702,170	\$14,078,420
Result	\$11.96	\$4.14	\$3.76

Appendix C: Results by Year

Table 28 shows the breakdown of costs and benefits over a 30-year period. Program activities create a stream of benefits over time for AmeriCorps members, the federal government, state and local governments, and society. Opportunity costs that occur from participation in the program apply to the first year, and forgone benefits to funders accrue over time. Program costs are expended in the first year only.

Table 28. SBP Program Benefits and Costs per Year

Benefits and costs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Benefits	\$33,335,774	\$10,067,296	\$10,293,845	\$10,527,190	\$10,767,535	\$11,015,091	\$11,270,073	\$11,532,705
AmeriCorps member benefits	\$21,179,419	\$6,872,175	\$7,015,891	\$7,163,918	\$7,316,386	\$7,473,428	\$7,635,181	\$7,801,787
Federal government benefits	\$9,055,757	\$2,515,568	\$2,580,012	\$2,646,390	\$2,714,760	\$2,785,180	\$2,857,713	\$2,932,422
State and local government benefits	\$3,100,597	\$679,554	\$697,942	\$716,882	\$736,390	\$756,483	\$777,179	\$798,496
Forgone benefits (opportunity costs)	\$103,600,587	\$474,314	\$474,314	\$474,314	\$474,314	\$474,314	\$474,314	\$474,314
Forgone benefits to members	\$66,093,791	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Forgone tax revenue	\$18,588,810	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>Federal taxes</i>	<i>\$13,445,792</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>
<i>State/local taxes</i>	<i>\$5,143,018</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>
Forgone benefits from total investments (all funders)	\$244,579	\$352,417	\$352,417	\$352,417	\$352,417	\$352,417	\$352,417	\$352,417
Forgone benefits from federal investments	\$84,597	\$121,897	\$121,897	\$121,897	\$121,897	\$121,897	\$121,897	\$121,897
Program costs	\$40,702,170	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Federal government costs	\$14,078,420	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-federal costs	\$26,623,750	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Benefits and costs	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16
Benefits	\$11,803,215	\$12,081,841	\$12,368,826	\$12,664,421	\$12,968,883	\$13,282,479	\$13,605,483	\$13,938,177
AmeriCorps member benefits	\$7,973,391	\$8,150,143	\$8,332,197	\$8,519,713	\$8,712,855	\$8,911,791	\$9,116,695	\$9,327,746
Federal government benefits	\$3,009,372	\$3,088,631	\$3,170,268	\$3,254,353	\$3,340,962	\$3,430,168	\$3,522,051	\$3,616,690
State and local government benefits	\$820,453	\$843,068	\$866,361	\$890,354	\$915,066	\$940,520	\$966,737	\$993,741
Forgone benefits (opportunity costs)	\$474,314	\$474,314	\$474,314	\$474,314	\$474,314	\$474,314	\$474,314	\$481,429
Forgone benefits to members	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Forgone tax revenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>Federal taxes</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>State/local taxes</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Forgone benefits from total investments (all funders)	\$352,417	\$352,417	\$352,417	\$352,417	\$352,417	\$352,417	\$352,417	\$357,703
Forgone benefits from federal investments	\$121,897	\$121,897	\$121,897	\$121,897	\$121,897	\$121,897	\$121,897	\$123,725
Program costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Federal government costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-federal costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Benefits and costs	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24
Benefits	\$14,280,852	\$14,633,807	\$14,997,351	\$15,371,801	\$15,757,484	\$16,154,739	\$16,563,910	\$16,985,357
AmeriCorps member benefits	\$9,545,129	\$9,769,033	\$9,999,655	\$10,237,195	\$10,481,861	\$10,733,867	\$10,993,433	\$11,260,787
Federal government benefits	\$3,714,168	\$3,814,571	\$3,917,986	\$4,024,503	\$4,134,216	\$4,247,220	\$4,363,614	\$4,483,500
State and local government benefits	\$1,021,554	\$1,050,203	\$1,079,710	\$1,110,103	\$1,141,408	\$1,173,652	\$1,206,863	\$1,241,070
Forgone benefits (opportunity costs)	\$481,429	\$481,429	\$481,429	\$481,429	\$481,429	\$481,429	\$481,429	\$481,429
Forgone benefits to members	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Forgone tax revenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>Federal taxes</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>State/local taxes</i>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Forgone benefits from total investments (all funders)	\$357,703	\$357,703	\$357,703	\$357,703	\$357,703	\$357,703	\$357,703	\$357,703
Forgone benefits from federal investments	\$123,725	\$123,725	\$123,725	\$123,725	\$123,725	\$123,725	\$123,725	\$123,725
Program costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Federal government costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-federal costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Benefits and costs	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
Benefits	\$17,419,448	\$17,866,561	\$18,327,087	\$18,801,429	\$19,290,002	\$19,793,231
AmeriCorps member benefits	\$11,536,161	\$11,819,796	\$12,111,940	\$12,412,849	\$12,722,784	\$13,042,018
Federal government benefits	\$4,606,983	\$4,734,170	\$4,865,172	\$5,000,105	\$5,139,086	\$5,282,236
State and local government benefits	\$1,276,304	\$1,312,595	\$1,349,974	\$1,388,475	\$1,428,131	\$1,468,977
Forgone benefits (opportunity costs)	\$481,429	\$481,429	\$481,429	\$481,429	\$481,429	\$505,500
Forgone benefits to members	\$0	\$0	\$0	\$0	\$0	\$0
Forgone tax revenue	\$0	\$0	\$0	\$0	\$0	\$0
<i>Federal taxes</i>	\$0	\$0	\$0	\$0	\$0	\$0
<i>State/local taxes</i>	\$0	\$0	\$0	\$0	\$0	\$0
Forgone benefits from total investments (all funders)	\$357,703	\$357,703	\$357,703	\$357,703	\$357,703	\$375,588
Forgone benefits from federal investments	\$123,725	\$123,725	\$123,725	\$123,725	\$123,725	\$129,912
Program costs	\$0	\$0	\$0	\$0	\$0	\$0
Federal government costs	\$0	\$0	\$0	\$0	\$0	\$0
Non-federal costs	\$0	\$0	\$0	\$0	\$0	\$0

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