

Return on Investment Study: Community Technology Empowerment Project

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Executive Summary

Community Technology Empowerment Project

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

This ROI study measures the benefits of the Community Technology Empowerment Project (CTEP) against its costs. CTEP is implemented by the Saint Paul Neighborhood Network (SPNN) and serves the Minneapolis–St. Paul metropolitan area. CTEP operates under the AmeriCorps State and National program in the Economic Opportunity focus area. As one of SPNN’s core programs, CTEP helps increase work-readiness skills of underserved groups so they can succeed in today’s workforce and contribute to the economy. The program promotes digital inclusion and equips new immigrants and members of low-income communities with the latest digital competencies, helping them gain sustainable employment and improve their civic, educational, and social opportunities. The length of time that people participate in CTEP varies depending on the CTEP services they receive.

Key Results

This study estimates CTEP’s ROI to be between \$2.95 and \$34.26 per funder dollar, depending on how long program participants and AmeriCorps members experience increased earnings as a result of CTEP. The return on each dollar of federal support for the program is even higher. The magnitude of the results is driven by strong employment and earnings outcomes for participants, and benefits to AmeriCorps members of national service that increase their earnings.

CTEP Impacts: Selected Evaluation Results

Below are high-level findings from CTEP’s 2018 evaluation (Backman, 2018) that provide context on the program’s structure and performance:

- The median number of program hours attended by survey respondents was 22.9.
- Of those who responded to the survey, 10.3 percent were unemployed pre-program, were looking for work while in the CTEP program, found a job after CTEP program participation, and indicated that the CTEP program helped them in their job search.
- The median annualized earnings of CTEP program participants who were unemployed pre-program but employed post-program was \$30,763.
- Over 81 percent of survey respondents who were looking for work reported that participating in the CTEP program helped them search for a job.

As instructors, AmeriCorps members work with CTEP participants aged 14 years old and older to improve their digital skills and technology literacy at various community locations, including libraries, community-based organizations, and adult education or employment centers. AmeriCorps members teach in formal classes and provide one-on-one mentoring and training in computer and technology labs to help participants become certified in technology skills. Certifications are awarded based on assessments designed by Northstar, a provider of digital literacy curricula and certifications. AmeriCorps members also instruct workforce readiness classes to assist English language learners. CTEP uses 35 full-time AmeriCorps members to provide these services to program participants and to support the capacity building initiatives of the program's multiple host sites.

Return on Investment Study Methods

The methodology for the CTEP ROI study consisted of the following components:

1. **Measuring and monetizing program benefits.** This included using data from previous evaluations and other third-party sources to determine the benefits of the CTEP program. Benefits are realized across three stakeholder groups: CTEP participants, CTEP AmeriCorps members, and the government. Specifically, these benefits include increased earnings for CTEP program participants, and for CTEP AmeriCorps members, increased earnings, living allowance during their service, and education awards following their service. Government benefits include tax revenue generation from increased economic activity and earnings as well as reduced spending on corrections, public assistance, and social insurance. This analysis monetized program benefits using various proxies and summed those amounts to quantify the impact of the CTEP program in 2019 dollars.
2. **Assessing program costs.** CTEP program costs were estimated based on the CTEP program budget, including budgeted federal funds, required match funds, and other funding. The CTEP program's budget includes costs that were allocated during the CTEP program year of September 2018 through August 2019.
3. **Calculating the ROI.** The ROI analysis consisted of three ROI calculations: 1) total benefits per federal dollar, 2) total benefits per funder dollar, and 3) federal government benefits per federal dollar. This analysis calculated the value of these three ROI calculations under three scenarios representing different assumptions about the persistence of program outcomes.

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

Figure ES 1. Benefits among CTEP Participants, AmeriCorps Members, and Government Derived from CTEP

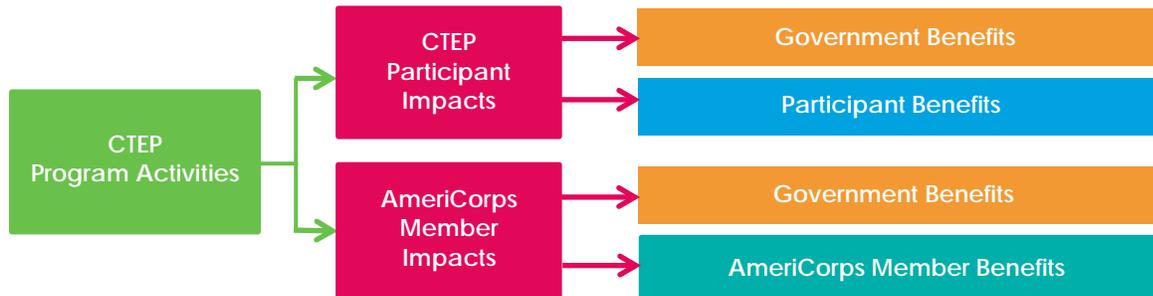


Figure ES 2 shows the benefits and costs that are included in each of the three types of ROI calculations.

Figure ES 2. Benefits and Costs Included in the ROI Calculations

ROI Calculation	Benefits (numerator)	Costs (denominator)
Total Benefits per Federal Dollar	All participant, AmeriCorps member, and government benefits derived from the program	<ul style="list-style-type: none"> Federal AmeriCorps funding
Total Benefits per Funder Dollar	All participant, AmeriCorps member, and government benefits derived from the program	<ul style="list-style-type: none"> Federal AmeriCorps funding Match funding All other funding
Federal Government Benefits per Federal Dollar	Additional tax revenue generation and reduced spending attributable to the program	<ul style="list-style-type: none"> Federal AmeriCorps funding

Available data established that both CTEP participants and AmeriCorps members enjoy increased earnings impacts—due to increased employment—as a result of the CTEP program. 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:¹

¹ These three scenarios consider varying durations of how long increased employment and earnings benefits last for both CTEP participants and AmeriCorps members. Certain additional benefits are included equally across these three scenarios. For instance, lifetime benefits with regard to decreased public assistance, social insurance, and corrections costs as a result of members' higher educational attainment post-service are represented in each of these three scenarios equally as present values. Thus, whether members' employment and earnings impacts are sustained for one year (i.e., short-term scenario) or 30 years (i.e., long-term scenario), the same present value amount of the lifetime cost savings is realized.

- **Short-Term.** This scenario assumes short-term earnings impacts. The assumption is that earnings impacts are limited to a single year.
- **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 2019 dollars.²
- **Long-Term.** This scenario assumes sustained earnings impacts throughout CTEP participants' and CTEP AmeriCorps members' working years. The assumption is that earnings impacts last 30 years. A discount rate of 3 percent is applied to the earnings each year to represent present net value in 2019 dollars.

The only difference between the three scenarios is the length of time that increased employment and earnings are sustained; all other benefits are held constant.

Benefits and Costs

Figure ES 3 shows the estimates of monetized benefits of the CTEP program by stakeholder group for each of the three scenarios. Under the short-term scenario, total benefits amount to over \$2.6 million, of which roughly 42, 30, and 28 percent are attributed to CTEP participants, AmeriCorps members, and the federal government, respectively. Under the medium-term scenario, the total benefits equal roughly \$19.3 million, of which about 70 percent are attributed to CTEP participants, 8 percent are attributed to AmeriCorps members, and 22 percent are attributed to the federal government. Lastly, under the long-term scenario, the total benefits equal nearly \$30.8 million, of which 72 percent are attributed to CTEP participants, 6 percent are attributed to AmeriCorps members, and 22 percent are attributed to the federal government.

Figure ES 3. Benefits by Recipient

Recipient	Benefits by Scenario (2019\$)		
	Short-Term	Medium-Term	Long-Term
CTEP Participants (percent of total)	\$1,109,288 (42%)	\$13,561,007 (70%)	\$22,148,532 (72%)
AmeriCorps Members (percent of total)	\$788,039 (30%)	\$1,462,541 (8%)	\$1,927,721 (6%)
Federal Government (percent of total)	\$751,318 (28%)	\$4,279,406 (22%)	\$6,712,607 (22%)
Total (total percent)	\$2,648,646 (100%)	\$19,302,954 (100%)	\$30,788,860 (100%)

² 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).

Additionally, Figure ES 4 shows the cost of the CTEP program by funding source. The total cost of the CTEP program for the September 2018 to August 2019 program year was \$898,720. A total of 64 percent of CTEP program costs (\$578,720) are funded by the federal government (i.e., AmeriCorps), while the remainder (36 percent or \$320,000) consists of the required match funding and additional funding provided by state and local governments and other non-government entities (i.e., local non-profits such as community, adult basic education, and workforce readiness centers.). The match funding received from non-federal government sources is equal to 55 percent of the federal funding provided for this program year.

Figure ES 4. Cost by Funding Source

Source	Amount (\$)	Percent of Total (%)
Federal Government Funding (AmeriCorps)	\$578,720	64%
State/Local Government Funding	\$136,000	15%
Non-government Funding	\$184,000	21%
Total	\$898,720	100%

ROI Results

This analysis developed three ROI estimates using the three scenarios (short-term, medium-term, and long-term). Figure ES 5 shows the ROI results for the CTEP program. Since two of the calculations include benefits to society (i.e., CTEP program participants and 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 costs. The ROIs expressed as cost-benefit ratios in this study can be interpreted as the amount of dollars returned for every \$1.00 of investment (or cost).³

Figure ES 5. ROI Results for CTEP

ROI Calculation	ROI Scenario		
	Short-Term	Medium-Term	Long-Term
Total Benefits per Federal Dollar	\$4.58	\$33.35	\$53.20
Total Benefits per Funder Dollar	\$2.95	\$21.48	\$34.26
Federal Government Benefits per Federal Dollar	\$1.30	\$7.39	\$11.60

³ ROIs are often expressed as percentages when measuring the financial return to a single entity from that entity's investment. Although this is consistent with one of the three ROI metrics reported (i.e., federal government benefits per federal dollar), since the other ROIs lend themselves to a cost-benefit ratio, that ratio is consistently used for all three metrics. Although not shown as a ratio, the results should be interpreted as the return for every dollar of investment.

Under the short-term scenario, the ROI for total benefits per federal dollar is \$4.58, meaning that CTEP participants, AmeriCorps members, and the government realize a combined return of \$4.58 on every dollar invested by the federal government (i.e., AmeriCorps) into the CTEP program. The ROI to all funders combined (under the short-term scenario) when all benefit types are considered, is \$2.95.⁴ In addition, under the short-term scenario, for every dollar invested by the federal government, the federal government alone realizes \$1.30 in return from additional tax revenue and savings.

Under the medium-term scenario, the ROI for total benefits per federal dollar, total benefits per funder dollar, and federal government benefits per federal dollar are \$33.35, \$21.48, and \$7.39, respectively.

Given the assumptions under the long-term scenario, the total benefits equal \$53.20 for each dollar of federal government investment, and the total benefits per total funder dollar equals \$34.26. Lastly, under the long-term scenario, the federal government alone receives \$11.60 back in federal benefits for every tax dollar invested.

Given the different assumptions of the three scenarios, the respective benefits across all three ROI calculations are larger than their associated costs. At a minimum—when considering solely the federal government investment provided by AmeriCorps and the benefits that would be realized for one year's time by the federal government alone—the CTEP program more than breaks even (as shown under the short-term scenario with an ROI of \$1.30). This indicates that given the most conservative assumptions and ROI calculation, the federal government still receives a monetary return greater than the taxes allocated to pay for the CTEP program's annual operation. Of note, when all benefits are considered (i.e., that of CTEP participants, AmeriCorps members, and the various levels of government), in summation they are about 4.6 times that of AmeriCorps's initial investment into CTEP for the most short-term scenario. Thus, when all stakeholder benefits are realized (and the benefit of increased earnings is only sustained for one year), they are over four and a half times the initial investment made by the federal government.

The magnitude of the positive ROI calculations is driven by several factors including:

- **The robust employment and earnings outcomes realized by CTEP program participants.** A total of 10.3 percent of CTEP participants who were unemployed before the program and job searching during the program not only gained employment after completing the program, but attributed their employment to the program (Backman, 2018).
- **The employment outcomes of AmeriCorps members.** According to the national AmeriCorps Alumni Outcomes Survey study (Friedman et al., 2016), the percentage of members unemployed was 5 percentage points lower six months after serving in AmeriCorps versus six months before.

⁴ The different funder groups whose investment is in this calculation include the federal government (i.e., AmeriCorps), state and local governments, and other non-government entities. The latter group consists of local non-profits that are predominantly community centers, adult basic education centers, and workforce readiness centers.

- **The educational attainment outcomes of AmeriCorps members.** AmeriCorps members receive an education award after serving in the 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 earnings for AmeriCorps members.

For the ROI calculations of 1) total benefits per federal dollar and 2) total benefits per funder dollar, in particular, AmeriCorps's requirement of match funding also contributed to the magnitude of the ROI results. This additional funding, amounting to \$320,000 for the September 2018 to August 2019 program year, was leveraged from the government investment and allowed CTEP to enroll and provide training to more participants than otherwise would have been served under the federal funding alone, leading to greater total benefits realized for the community and society.

Introduction

The AmeriCorps contracted with ICF Incorporated, LLC (hereafter ICF) to explore and quantify the return on investment (ROI) of several programs that rely on national service—AmeriCorps and AmeriCorps Seniors—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 process and preliminary assessments of whether ROI analyses were feasible for five national service programs. These feasibility studies included thorough reviews of these programs' recent evaluations, detailed logic models, proposed ROI analysis methodologies for each program, and a scorecard mechanism that determined the viability of conducting an ROI analysis for each selected program.

Upon completion of five feasibility studies, AmeriCorps selected four programs to be the subject of ROI studies: College Possible, the Community Technology Empowerment Project (CTEP), Minnesota Reading Corps, and AmeriCorps Seniors' Foster Grandparent and Senior Companion Programs. This ROI study measures the benefits of CTEP against its costs based on the analytical approach and data sources specified in its respective feasibility study.

Study Overview

This study is organized into five sections:

- **Program Description** describes the program's design, activities, and objectives, along with the role that national service (specifically AmeriCorps) plays in its operation. The section also provides a brief history of past evaluations and outlines the factors that made this program a strong selection for an ROI study.
- **ROI Methodology** outlines how this analysis used various data sources to monetize benefits derived from the CTEP program and describes its program costs.
- **Benefits, Costs, and ROI Results** provides a detailed description of the benefits and costs that are inputs into the ROI analyses and presents the results of the three ROI calculations.
- **Recommendations for Further Research** explores ways in which 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

CTEP is implemented by the Saint Paul Neighborhood Network (SPNN) and serves the Minneapolis–St. Paul metropolitan area. CTEP operates under the AmeriCorps State and National program in the Economic Opportunity focus area. SPNN's mission is to empower underrepresented people to use media, communications, and technology to

further civic, social, community, and economic advancement (Saint Paul Neighborhood Network, 2020a). As one of SPNN's core programs, CTEP helps increase the work-readiness skills of underserved groups so they can succeed in the workforce and contribute to the economy. The program promotes digital inclusion and equips new immigrants and members of low-income communities with the computer-related knowledge and skills they need so they can obtain gainful employment and improve their civic, educational, and social opportunities.

As CTEP instructors, AmeriCorps members work with youth and adults (aged 14 years old and older) to improve their digital skills and technology literacy at various community locations, including libraries, community-based organizations, and adult education or employment centers. AmeriCorps members teach in formal classes, provide one-on-one mentoring and training in computer and technology labs, and certify participants in technology skills. Certifications are awarded based on assessments designed by Northstar, a provider of digital literacy curricula and certifications. AmeriCorps members teach skills derived from curricula specified under the Northstar Digital Literacy standards and instruct workforce readiness classes positioned to assist English language learners, low-income individuals, and others. Examples of their instructional activities include helping participants navigate graphic design platforms, introducing them to the internet, and helping them edit resumes in Word. CTEP currently leverages 35 full-time AmeriCorps members to provide these services to program participants and to support the capacity building initiatives of the program's multiple host sites (SPNN, 2020b).

Northstar Digital Literacy Standards, Curricula, and Assessments



Northstar (2020) sets standards for digital literacy and offers digital literacy testing. CTEP uses Northstar curricula to help program participants build their technology knowledge and skills around Northstar's digital literacy standards for:

- **Essential computer skills:** including basic computer skills, internet basics, using email, Windows 10, Mac OS
- **Essential software skills:** including Microsoft Word, Excel, and PowerPoint
- **Using technology in daily life:** including social media, information literacy, career search skills, and an individual's digital footprint

CTEP uses proctored Northstar assessments to certify program participants in these digital literacy topics. Participants who achieve a score of at least 85 percent on an assessment earn the Northstar Digital Literacy Certificate. Participants who pass assessments for multiple topics have the option of receiving a summary certificate listing all modules passed.

Northstar is a program of Literacy Minnesota, a 501c3 organization, whose mission is to share the power of learning through education, community building, and advocacy.

CTEP Evaluation History

Two evaluations—each by Backman (2015, 2018)—have measured the impacts of the CTEP program. The main objective of both evaluations was to determine whether participation in Northstar Digital Literacy assessments and related computer skills instruction—both administered and provided by AmeriCorps members in the CTEP program—improved the employability of adult learners.

Both evaluations used survey responses to assess the employment outcomes of those who participated in CTEP's Northstar assessment-related classroom programming. The 2018 evaluation improved on the 2015 evaluation by including updated data on program outcomes, expanding member involvement, improving the survey design, and increasing the survey response rate. Given these improvements to the study design, the 2018 evaluation was used as the basis for this ROI study.

For the Backman (2018) evaluation, surveys were administered and completed by 272 adult learners who passed at least one Northstar assessment and participated in at least four hours of CTEP's Northstar-related basic computer skills classes from September 2017 to mid-June 2018. Participants completed the surveys 1 to 10 months after participating in CTEP, were either employed or unemployed before program participation, and passed a Northstar assessment at least four weeks prior to survey administration. The surveys included questions about participants' demographics, employment status, purpose for program attendance, and whether participation in computer skills classes helped in their job search. For respondents who were employed post-program, the surveys also captured data on types of employers they worked for and the jobs they obtained.

General findings from the Backman (2018) evaluation included the following:

- The median number of program hours attended by survey respondents was 22.9.
- Over 81 percent of survey respondents who were looking for work reported that participating in the CTEP program helped them search for a job.
- Over 47 percent of unemployed survey respondents who were searching for work had found employment at the time of survey administration.

This ROI study, which focused only on CTEP program participants who were unemployed prior to program participation, used the following employment outcomes, as well as the Backman (2018) evaluation's documentation of CTEP participant demographics:

- Of those who responded to the survey and had passed at least one Northstar assessment after participating in at least four hours of CTEP training, 10.3 percent were unemployed before starting the CTEP program, were actively seeking work while they were taking CTEP classes, found a job after CTEP program participation, and indicated that the Northstar related programming helped them in their job search.
- The median annualized earnings of CTEP program participants who were unemployed pre-program but employed post-program was \$30,763.

Selection of CTEP for the AmeriCorps ROI Project

ICF recommended making the CTEP program the subject of an ROI analysis based on a comprehensive feasibility study. The feasibility study noted the program's 2018 evaluation which documented employment and earnings outcomes of the program, providing a basis for estimating CTEP program benefits (Backman, 2018). The feasibility study also identified research that could be used to quantify the benefits to AmeriCorps members involved in CTEP via national service. In particular, a 2016 study by Friedman et al. documented the post-national service employment outcomes associated with serving in AmeriCorps.⁵ Additionally, Zeidenberg et al. (2016) estimated the extent to which national service increased members' educational attainment.⁶ Including these additional data allowed an expanded array of benefits of the CTEP program to be captured in the ROI analysis.

CTEP largely targets and serves low-income, working-age adults, which is a distinct population not represented among the other programs that were being considered by AmeriCorps for an ROI analysis. In addition, ROI results for this program may be applicable to other similarly structured Economic Opportunity programs that benefit from AmeriCorps support and resources.

ROI Methodology

The methodology for the CTEP ROI study consists of the following components:

- 1. Measuring and monetizing program benefits.** This includes using data from previous evaluations and other third-party sources to determine the benefits to CTEP program participants, CTEP AmeriCorps members, and the government. The benefits realized across these three stakeholder groups include:
 - CTEP Program Participants. Increased earnings.
 - AmeriCorps Members. Living allowances received during service, education awards received following service, and increased earnings post-service.
 - Government. Income, Social Security, and Medicare tax revenue from CTEP participants' and members' increased earnings, and sales tax revenue from the increased economic activity that results from those increased earnings. Government benefits also include reduced spending on corrections, public assistance, and social insurance associated with increased educational attainment of AmeriCorps members and the employment of CTEP participants.

This ROI analysis monetized CTEP program benefits in 2019 dollars.
- 2. Assessing program costs.** CTEP program costs are based on the CTEP program budget and consist of budgeted federal funds, required match funds, and other funding. The CTEP program's budget includes costs that were allocated during the CTEP program year of September 2018 to August 2019.

⁵ For additional information, see page 56 of Friedman et al. (2016).

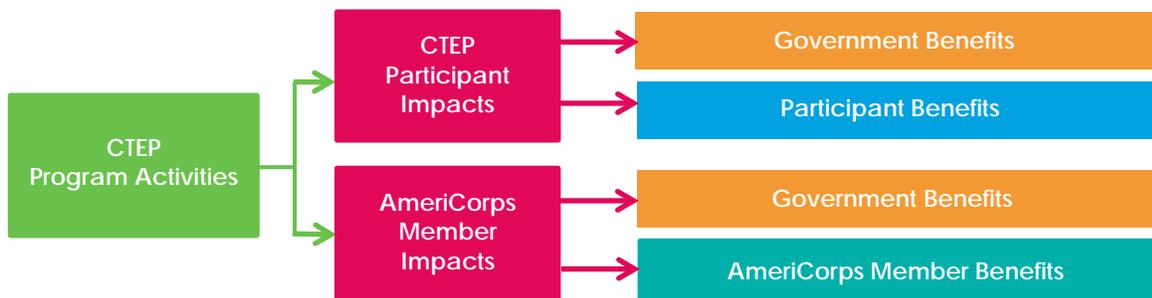
⁶ For additional information, see pages 9 and 25 of Zeidenberg et al. (2016).

3. **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 dollar⁷
- Federal government benefits per federal dollar

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

Figure 1. Benefits among CTEP Participants, AmeriCorps Members, and Government Derived from CTEP



Available data established that both CTEP participants and AmeriCorps members enjoy earnings impacts as a result of the CTEP program. 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:⁸

- **Short-Term.** This scenario assumes short-term earnings impacts. The assumption is that earnings impacts are limited to a single year.

⁷ The different funder groups whose investment is in this calculation include the federal government (i.e., AmeriCorps), state and local governments, and other non-government entities. The latter group consists of local non-profits that are predominantly community centers, adult basic education centers, and workforce readiness centers.

⁸ These three scenarios consider varying durations of how long increased employment and earnings benefits last for both CTEP participants and AmeriCorps members. Certain additional benefits are included equally across these three scenarios. For instance, lifetime benefits with regard to decreased public assistance, social insurance, and corrections costs as a result of members' higher educational attainment post-service are represented in each of these three scenarios equally as present values. Thus, whether members' employment and earnings impacts are sustained for one year (i.e., short-term scenario) or 30 years (i.e., long-term scenario), the same present value amount of these lifetime cost savings 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 2019 dollars.⁹
- **Long-Term.** This scenario assumes sustained earnings impacts throughout CTEP participants' and CTEP 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 2019 dollars.

The only difference between the three scenarios is the length of time that increased employment and earnings are sustained; all other benefits are held constant.

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

Monetizing Benefits and Costs

- This analysis monetized an array of benefits and included CTEP program costs, all in 2019 dollars, to assess the ROI of the CTEP program. Additional details on the methodology employed and the calculations used for this analysis are in Appendix B.

Benefits

CTEP results in monetizable benefits to CTEP participants, AmeriCorps members, and the government. Figure 2 summarizes these benefits and data sources by stakeholder group.

Figure 2. Benefits Realized from the CTEP Program by Stakeholder Group

Stakeholder Group	Benefits	Data Sources*
CTEP Participants	<ul style="list-style-type: none"> • Additional earnings from increased employment 	<ul style="list-style-type: none"> • Backman (2018) • CTEP¹⁰ • American Community Survey (ACS; U.S. Census Bureau, n.d.) • Consumer Price Index (CPI; U.S. Bureau of Labor Statistics, n.d.)

⁹ 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).

¹⁰ Unless otherwise cited, all information provided directly by CTEP for this report was received through ICF's personal communication with CTEP in 2020.

Stakeholder Group	Benefits	Data Sources*
AmeriCorps Members	<ul style="list-style-type: none"> • Education awards • Living allowances • Additional earnings from increased employment (Friedman et al., 2016)¹¹ • Additional educational attainment as a result of education awards 	<ul style="list-style-type: none"> • Friedman et al. (2016) • Zeidenberg et al. (2016) • CTEP • ACS (U.S. Census Bureau, n.d.) • Trostel (2015) • CPI (BLS, n.d.) • AmeriCorps¹²
Government	<ul style="list-style-type: none"> • Tax revenue from increased CTEP participant earnings post-program and sales tax revenue from the induced increased economic activity • Reduced spending on public assistance from increased CTEP participant earnings post-program • Tax revenue from increased AmeriCorps member earnings post-national service and sales tax revenue from the induced economic activity • Reduced spending on corrections, public assistance, and social insurance associated with the increased educational attainment of AmeriCorps members post-national service 	<ul style="list-style-type: none"> • Consumer Expenditure Survey (BLS, 2020) • Federal and state income tax rates (Bankrate, 2020; Tax Foundation, 2019) • Social Security tax rate (Social Security Administration, 2018) • Medicare tax rate (SSA, 2018) • Combined state and average local sales tax rates (Tax Foundation, 2019) • Trostel (2015)

*Note: The usage of these data sources is discussed in more detail in the subsequent paragraphs. Additionally, for the state income and the combined state and average local sales tax rates used in this ROI analysis, tax rates used on CTEP participants' increased earnings are specific to Minnesota. Tax rates used on AmeriCorps members' increased earnings, living allowances, and education awards are national averages. Specifics can be found in Appendix B.

Additional Earnings from Increased Employment (Benefit to CTEP Participants)

Backman (2018) estimated earnings outcomes for CTEP program participants who were *unemployed* pre-program and became employed post-program. Other CTEP participants were *employed* pre-program and may have experienced increased earnings as a result of acquiring skills taught in the CTEP program. However, the

¹¹ This study found that AmeriCorps service led to a 5 percentage point decrease in unemployment between six months prior to service and six months after service. This is leveraged to monetize the additional earnings of AmeriCorps members who serve in the CTEP program.

¹² Unless otherwise cited, all information provided directly by AmeriCorps for this report was received through ICF's personal communication with AmeriCorps in 2020.

Backman (2018) outcome data do not establish the effect of the program on the earnings of already-employed program participants and there are no other data available that establish that benefit. This ROI analysis estimated benefits only for CTEP program participants who were *unemployed* pre-program and became employed post-program, but included costs of the full program, yielding conservative estimates of ROI.

In addition, Backman (2018) only collected outcomes data for the subset of program participants who passed at least one Northstar assessment. Others who participated in the program but did not pass at least one Northstar assessment may also have experienced increased earnings or other benefits that are not captured in this ROI analysis.

Backman (2018) found that of those who responded the CTEP program survey, 10.3 percent were unemployed pre-program, job seeking while taking the CTEP computer literacy classes, employed post-program, and indicated that CTEP helped them in their job search. This analysis used the 10.3 percent to estimate the increase in employment of CTEP participants as a result of the program. To estimate employment impacts across the full program, the 10.3 percent was applied to the number of CTEP program participants who passed at least one Northstar assessment during the September 2018 to August 2019 program year.¹³ The product of this calculation estimated the number of CTEP participants who became employed due to participation in CTEP. To estimate earnings from this employment, the estimated number of newly employed participants was multiplied by the average annualized earnings for CTEP participants who became employed post-program as provided by the study. This analysis used the Consumer Price Index (CPI; U.S. Bureau of Labor Statistics, n.d.) to express that dollar amount in 2019 dollars.

To conservatively estimate the net earnings benefit from CTEP-attributable employment gains, the employment of CTEP participants post-program was compared to their assumed employment pre-program (i.e., what participants' employment rate would have been if they didn't participate in the CTEP program). To estimate this latter metric, a weighted employment rate was calculated using 2018 data from the U.S. Census Bureau's American Community Survey (ACS) for the Minneapolis–St. Paul–Bloomington, MN–WI metropolitan statistical area (U.S. Census Bureau, n.d.). In estimating this pre-program employment rate, the demographic distribution of CTEP participants provided in the study—gender, age, race, and English as a second language status—was included. This employment estimate was used to approximate the employability of the CTEP participants if they did *not* participate in the CTEP program.

The additional number of CTEP participants employed solely due to the CTEP program (when comparing the employment rate of post- versus pre-program) was leveraged to estimate the increased earnings of CTEP participants after program completion. This

¹³ CTEP provided this metric, which represented the number of program participants who passed at least one Northstar assessment (1,530) of the population served for the most recent, full program year.

metric was then taxed and discounted based on the short-term, medium-term, and long-term scenarios in net present 2019 dollars. These cumulative post-tax earnings represent the disposable income earned by CTEP participants as a result of CTEP program participation.¹⁴

Additional Earnings from Increased Employment (Benefit to 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 (Friedman et al., 2016; Markovitz et al., 2008; Spera et al., 2013; Zeidenberg et al., 2016). Friedman et al. (2016) found that unemployment among AmeriCorps members six months after their period of national service was 5 percentage points lower compared to six months before. To monetize this decrease in unemployment, the analysis first applied the 5 percentage point reduction in unemployment to the number of CTEP's AmeriCorps members, and then applied the product to the median annual earnings, which was weighted by members' educational attainment levels post-service and was provided by Friedman et al. (2016).

The analysis proceeded to:

- Estimate the additional AmeriCorps members employed attributable to national service
- Estimate the annual median earnings of the AmeriCorps members
- Calculate the total earnings for AmeriCorps members attributable to the increased employment

¹⁴ For CTEP participants and AmeriCorps members, post-tax earnings represent the gross earnings realized due to increased employment minus the amount taken from a combination of federal income, state income, Medicare, and Social Security taxes. Although increased sales taxes (to state and local governments) are an additional government benefit due to these groups' increased earnings, these sales taxes are not removed from CTEP participants' or AmeriCorps members' gross earnings to calculate their post-tax earnings; as a result, there is a slight income imbalance in this ROI analysis for these two groups. However, this has no measurable impact on the ROI.

The earnings metrics for AmeriCorps members were applied and discounted based on the short-term, medium-term, and long-term scenarios in net present 2019 dollars. AmeriCorps members' post-tax projected earnings represent the additional income earned attributable to their participation in national service.¹⁵

Education Awards and Living Allowances (Benefits to AmeriCorps Members)

AmeriCorps members receive living allowances during their national service term and education awards after program exit. Both living allowances and education awards are taxable, so post-tax amounts were used to calculate benefits to members.

Living Allowances. AmeriCorps members use living allowances to pay for expenses during their service terms. This post-tax amount represents a direct benefit to AmeriCorps members.

Education Awards. AmeriCorps members can use education awards to a) pay for additional educational attainment and b) repay student loans. Friedman et al. (2016) studied how AmeriCorps members allocate their education awards between these eligible uses.

- Education award used to pay for additional educational attainment. This analysis estimated the expected increased earnings attributable to AmeriCorps members' increased educational attainment post-service as a result of using the education award to pay for additional schooling. Based on Friedman et al. (2016), the analysis estimated the amount in post-tax education awards that CTEP 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. These estimated additional earnings were included as a benefit to AmeriCorps members.
- Education award used to repay student loans. The amount of post-tax education awards used to repay student loans, as identified by Friedman et al. (2016), was included in the ROI analysis as a direct one-time benefit to AmeriCorps members.

Tax Revenue Generation and Reduced Spending (Benefits to Government)

The benefits of CTEP to program participants and AmeriCorps members result in benefits to the various levels of government.

¹⁵ For CTEP participants and AmeriCorps members, post-tax earnings represent the gross earnings realized due to increased employment minus the amount taken from a combination of federal income, state income, Medicare, and Social Security taxes. Of note, even though increased sales taxes (to state and local governments) are an additional government benefit due to these groups' increased earnings, these sales taxes are not removed from CTEP participants' or AmeriCorps members' gross earnings to calculate their post-tax earnings; as a result, there is a slight income imbalance in this ROI analysis for these two groups. However, this has no measurable impact on the ROI.

Benefits to the Government from Increased Earnings by CTEP Participants

Government benefits from increased earnings by CTEP participants in the form of:

- **Income tax revenue from increased CTEP participant earnings post-program.** Federal income taxes, state income taxes, Medicare taxes, and Social Security taxes were estimated for the additional earnings of CTEP participants based on 2019 rates. For both the federal and state income taxes, the rates of the second-to-lowest income brackets were used, since the annual median earnings of the CTEP participants post-program were in this tax bracket. For the state income tax, rates specific to Minnesota were used, assuming that CTEP participants continue to reside in that state over the course of their working years.
- **Sales tax revenue from the increased economic activity that results from increased CTEP participant earnings post-program.** To estimate the additional sales tax revenue generated due to the additional net earnings of CTEP participants, the combined state and average local sales tax rate for Minnesota was first applied to the estimated taxable expenditures for consumers whose income is similar to that of the CTEP participants post-program using the Consumer Expenditure Survey (BLS, 2020). The resulting product was then applied to the additional earnings of CTEP participants to calculate the increase in sales tax to state and local governments as a result of CTEP program participation.
- **Reduced spending on public assistance from increased CTEP participant earnings post-program.** As a result of increased earnings, CTEP participants receive less public assistance. Specifically, savings to the federal government with regard to public assistance—including Temporary Assistance for Needy Families (TANF), Supplemental Security Income (SSI), and Supplemental Nutrition Assistance Program (SNAP) benefits—were estimated. To calculate this, the decrease in public assistance spending by the government as a result of CTEP participants' increased income post-program was estimated using data from the Consumer Expenditure Survey (BLS, 2020).

Benefits to the Government from Increased Earnings and Educational Attainment by AmeriCorps Members

Government benefits from increased earnings and educational attainment by AmeriCorps members in the form of:

- **Income tax revenue from increased AmeriCorps member earnings post-national service.** The analysis estimated federal income tax, state income tax, Medicare, and Social Security tax for the additional earnings of AmeriCorps members based on 2019 tax rates. The analysis estimated tax rates based on the annual median earnings of the CTEP AmeriCorps members. The analysis used average state income tax rates for the United States, given that 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 AmeriCorps member earnings post-service.** To estimate the additional sales tax revenue generated due to the additional net earnings, the analysis multiplied the average combined state and local sales tax for the United States by the estimated

taxable expenditures to income ratio for consumers whose income is similar to that of the AmeriCorps member earnings post-service using the Consumer Expenditure Survey (BLS, 2020). The resulting product was then applied to the additional earnings of the AmeriCorps members to calculate the increase in sales tax to state and local governments.

- **Tax revenue from living allowances and education awards.** The living allowance provided to CTEP AmeriCorps members during their service term is taxed. This analysis applies all the aforementioned tax rates to estimate this additional government revenue. For the state income and state sales taxes, average rates across the U.S. are used, even though the living allowance is provided to the AmeriCorps members during their time of service in Minnesota. This is done to stay consistent with the AmeriCorps members' tax rates that are used for additional income earned post-program, where it is assumed that they can be living anywhere in the U.S. after program completion. Using national average tax rates rather than Minnesota-specific rates for one service year has no impact on the ROI results.

Education awards are also taxed, resulting in additional government revenue. Sales taxes are not calculated for education awards since this award amount cannot be used for consumer purchases. The education award is, however, subject to federal and state taxes, such as income, Social Security, and Medicare taxes. These taxes are accounted for in the ROI analysis.¹⁶

- **Reduced spending on corrections, public assistance, and social insurance associated with increased educational attainment of AmeriCorps members post-service.** The last benefit related to CTEP AmeriCorps members captured by this ROI study is the lifetime reduction in public assistance, social insurance, and corrections/incarceration spending due to the higher educational attainment of members (Trostel, 2015). Higher-educational attainment is associated with less dependence on government assistance programs and lower incarceration rates (Blagg & Blom, 2018; Harlow, 2003). Because CTEP AmeriCorps participation increases educational attainment, the government spends less.

For the monetization of these benefits, the analysis paired the expected increase in educational attainment for CTEP AmeriCorps members with the expected difference in per-person lifetime government cost savings from Medicaid, SNAP, unemployment insurance, worker's compensation, and incarceration for individuals with different levels of educational attainment.

Costs

The costs for the CTEP program, used for this ROI analysis, include federal, required match funding, and all other funding used to support program operations. The costs are specific to the program participant cohort whose outcomes are measured for in this

¹⁶ The tax implications of the AmeriCorps member education award can be found here: <https://www.nationalservice.gov/programs/ameri-corps/segal-ameri-corps-education-award/tax-implications>.

analysis. Figure 3 shows the segmentation of CTEP program costs by funder, which was provided by the CTEP AmeriCorps Program Director. The AmeriCorps federal funds included the living allowances provided to participating AmeriCorps members during this service year and the summed, pro-rated¹⁷ educational award amounts granted to these members once they completed their service term. Federal dollars also helped pay for part of the salary of one of the CTEP program staff members and for program expenses such as AmeriCorps members' FICA and other administrative fees. The sum of the state/local government and the non-government costs represents the match funding CTEP received for the program year; these amounts are spent on staff salaries and other program costs or expenses.

Of note, while AmeriCorps is the leading funder for CTEP (sponsoring more than two-thirds of program costs), CTEP's match funding was 55 percent of federal funds. This higher match provides the CTEP program with the budgetary slack to serve more individuals and provide more services than would be otherwise available only under the federal funds, which translates into increased benefits across stakeholder groups.

Figure 3. CTEP Program Costs by Funder Type

Funder	Funding Provided for the Program Year (\$)	Percent of Total (%)	Percent of AmeriCorps Funds (%)
AmeriCorps	\$578,720	64%	55%
State/Local Governments	\$184,000	21%	
Non-government ¹⁸	\$136,000	15%	
Total	\$898,720	100%	

ROI Study Limitations

There are some limitations to consider that will help contextualize the ROI analysis' findings. With regard to the data sources used, the Backman (2018) and Friedman et al. (2016) studies—which describe program impacts for CTEP participants and AmeriCorps members, respectively—include data that are self-reported using survey instruments. Specifically, data on employment and earnings outcomes and on whether CTEP participation helped in participants' success in obtaining employment post-program are not corroborated by third-party sources. Moreover, specific to the Backman (2018) evaluation, the survey question that evaluated whether CTEP program participation played an influential role in helping participants in their job search was binary: it helped

¹⁷ Regarding the pro-rating of education awards: if an AmeriCorps member did not finish a full year of service, the member is granted a reduced education award based on the number of hours completed that service year.

¹⁸ This funder group includes local non-profits that predominantly consist of community centers, adult basic education centers, and workforce readiness centers.

or did not help. The question was not written to assess to what *degree* CTEP helped them secure a job post-program.

As noted above, outcomes data were not available for a large subset of the CTEP participant population. Specifically, Backman (2018) estimated earnings outcomes for CTEP program participants who were *unemployed* pre-program and became *employed* post-program. As discussed above, other CTEP participants were *employed* pre-program and may have experienced increased earnings as a result of acquiring skills taught in the CTEP program. However, the Backman (2018) outcome data do not establish the effect of the program on the earnings of already-employed program participants. In addition, Backman (2018) only collected outcomes data for the subset of program participants who passed at least one Northstar assessment. Others who participated in the program but did not pass at least one Northstar assessment may also have experienced increased earnings or other benefits.¹⁹ Since the benefits from only a subset of participants are included in the ROI calculation, while the cost to serve all participants are included, the ROI results are conservative estimates.

Only employment-related outcomes were captured in Backman (2018). Because the CTEP program is structured to help participants gain and enhance their digital literacy skills, it can also lead to improved educational outcomes, such as high school/GED completion, college enrollment, or postsecondary degree completion. Those potential educational outcomes could further increase participants' employability or earnings potential. Because outcomes related to increased educational attainment were not included in the evaluation, they are not included in the ROI estimates. If these outcomes were included and reasonably monetized, they would likely increase the estimated ROI for the CTEP program.

Lastly, it is likely that not all possible benefits from the CTEP program are included in this analysis, since the CTEP evaluation is focused on just the outcomes experienced by program participants. For example, the evaluation does not capture any possible improvements in CTEP participants' families' well-being, socio-economic status, or health as a result of their obtaining employment. These benefits would also lead to a higher ROI than reported here.

The analysis in this study uses a conservative approach to address the limitations of the outcome evaluations used, leading to an estimated ROI that is likely lower than the actual. As noted above, outcomes for only a subset of the CTEP population are included while costs to serve the entire participant population are considered in the ROI. Furthermore, there are likely additional benefits, such as those to participants' family members, that are not included in this analysis.

¹⁹ There was a total of 4,440 CTEP participants for the September 2018 to August 2019 program year measured in this ROI. Of this amount, 2,001 individuals took the Northstar assessment, of which 1,530 passed.

Benefits, Costs, and ROI Results

The ROI for the CTEP program measures the benefits of the program compared to its costs in order to determine the return to different stakeholders. This section provides ICF’s estimates of benefits, costs, and resulting ROI.

Benefits

Figure 4 shows the estimates of monetized benefits of the CTEP program by stakeholder group for each of the three scenarios. Under the short-term scenario, total benefits amount to over \$2.6 million, of which roughly 42, 30, and 28 percent are attributed to CTEP participants, AmeriCorps members, and the federal government, respectively. Under the medium-term scenario, the total benefits equal roughly \$19.3 million, of which about 70 percent are attributed to CTEP participants, 8 percent are attributed to AmeriCorps members, and 22 percent are attributed to the federal government. Lastly, under the long-term scenario, the total benefits equal nearly \$30.8 million, of which 72 percent are attributed to CTEP participants, 6 percent are attributed to AmeriCorps members, and 22 percent are attributed to the federal government.

Figure 4. Benefits by Recipient

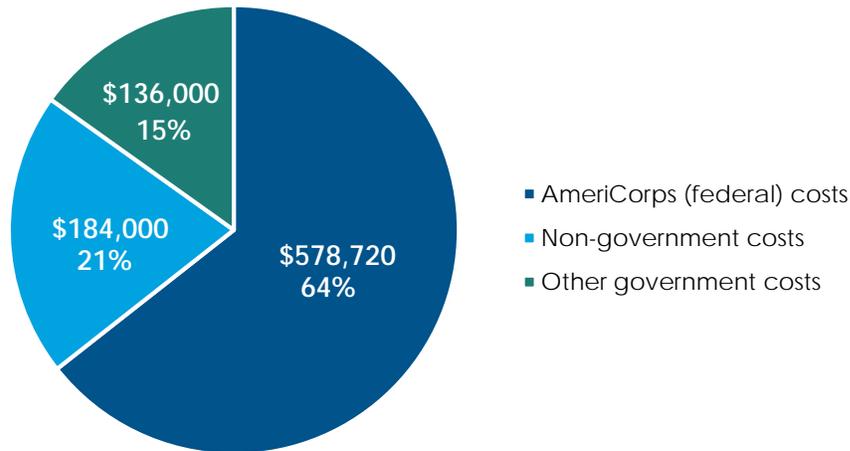
Recipient	Benefits by Scenario (2019\$)		
	Short-Term	Medium-Term	Long-Term
CTEP Participants (percent of total)	\$1,109,288 (42%)	\$13,561,007 (70%)	\$22,148,532 (72%)
AmeriCorps Members (percent of total)	\$788,039 (30%)	\$1,462,541 (8%)	\$1,927,721 (6%)
Federal Government (percent of total)	\$751,318 (28%)	\$4,279,406 (22%)	\$6,712,607 (22%)
Total (total percent)	\$2,648,646 (100%)	\$19,302,954 (100%)	\$30,788,860 (100%)

Costs

Figure 5 shows the cost of the CTEP program by funding source. The total cost of the CTEP program for the September 2018 to August 2019 program year was \$898,720. A total of 64 percent of CTEP program costs (\$578,720) are funded by the federal government (i.e., AmeriCorps), while the remainder (36 percent or \$320,000) consists of the required match funding and additional funding provided by state and local governments and other non-government entities (i.e., local non-profits such as community, adult basic education, and workforce readiness centers.). The match funding received from non-federal government sources is equal to 55 percent of the federal funding provided for this program year.

Note that the cost used in this ROI analysis includes the cost to serve all CTEP participants for the most recent program year. The benefits used in the ROI analysis, in contrast, include only a subset of the participants served (as discussed above). Thus, the ROI findings are conservative estimates.

Figure 5. Cost by Funding Source for CTEP Program



ROI Results

Figure 6 shows the benefits and costs that are included in each of the three ROI calculations.

Figure 6. Benefits and Costs Included in the ROI Calculations

ROI Calculation	Benefits (numerator)	Costs (denominator)
Total Benefits per Federal Dollar	All participant, AmeriCorps member, and government benefits derived from the program	<ul style="list-style-type: none"> Federal AmeriCorps funding
Total Benefits per Funder Dollar	All participant, AmeriCorps member, and government benefits derived from the program	<ul style="list-style-type: none"> Federal AmeriCorps funding Match funding All other funding
Federal Government Benefits per Federal Dollar	Additional tax revenue generation and reduced spending attributable to the program	<ul style="list-style-type: none"> Federal AmeriCorps funding

Figure 7 summarizes the ROI results for CTEP 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 (i.e., CTEP program participants and 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 costs. The ROIs expressed as cost–benefit ratios in this study can be interpreted as the amount of dollars returned for every \$1.00 of investment (or cost).²⁰ See Appendix B for the formulas used to calculate each ROI calculation.

Figure 7. ROI Results for CTEP

ROI Calculation	ROI Scenario		
	Short-Term	Medium-Term	Long-Term
Total Benefits per Federal Dollar	\$4.58	\$33.35	\$53.20
Total Benefits per Funder Dollar	\$2.95	\$21.48	\$34.26
Federal Government Benefits per Federal Dollar	\$1.30	\$7.39	\$11.60

Even the short-term scenario demonstrates that CTEP generates significant value relative to its costs. Under the short-term scenario, the federal government receives \$4.58 in total benefits for every dollar invested, and all funders collectively receive \$2.95 in total benefits per dollar invested. Given the short-term scenario, the federal government alone receives \$1.30 back in fiscal returns and savings for every dollar invested, while also generating significant benefits for society (i.e., CTEP participants and AmeriCorps members) from that investment. Moreover, this indicates that given the most conservative assumptions and ROI calculation, the federal government still receives a monetary return greater than the taxes allocated to pay for the CTEP program.

Under the medium-term scenario, the ROI for total benefits per federal dollar, total benefits per funder dollar, and federal government benefits per federal dollar are \$33.35, \$21.48, and \$7.39, respectively.

Under the long-term scenario, CTEP participants, AmeriCorps members, and the government realize a combined return of \$53.20 on every dollar invested by the federal government (i.e., AmeriCorps) into the CTEP program. For every dollar invested in the CTEP program from all funders, \$34.26 is returned to both society and the government combined.²¹ In addition, under the long-term scenario, for every dollar invested by the federal government, the federal government alone realizes \$11.60 in return from additional tax revenue and savings.

²⁰ ROIs are often expressed as percentages when measuring the financial return to a single entity from that entity’s investment. Although this is consistent with one of the three ROI metrics reported (i.e., federal government benefits per federal dollar), since the other ROIs lend themselves to a cost–benefit ratio, that ratio is consistently used for all three metrics. Although not shown as a ratio, the results should be interpreted as the return for every dollar of investment.

²¹ The different funder groups whose investment is in this calculation include the federal government (i.e., AmeriCorps), state and local governments, and other non-government entities. The latter group consists of local non-profits that are predominantly community centers, adult basic education centers, and workforce readiness centers.

Given the different assumptions of the three scenarios, the respective benefits across all three ROI calculations are larger than their associated costs. Additionally, when all benefits are considered (i.e., that of CTEP participants, AmeriCorps members, and the various levels of government), in summation AmeriCorps receives \$4.58 for every dollar it initially invested into CTEP for the most short-term scenario. Thus, when all stakeholder benefits are realized (and the benefit of increased earnings is only sustained for one year), they are 458 percent the initial investment made by the federal government. This further corroborates how CTEP generates significant value across a diverse group of stakeholders.

The magnitude of the positive ROI calculations is driven by several factors including:

- **The robust employment and earnings outcomes realized by CTEP program participants.** Backman (2018) found that of those who responded to the CTEP program survey, 10.3 percent were unemployed pre-program, job seeking while taking the CTEP computer literacy classes, became employed post-program, and indicated that CTEP helped them in their job search. As explained previously in the *ROI Study Limitations* section, this is a conservative estimate of program impacts, given that only a subset of participant outcomes is included in this ROI, but the cost to serve the entire CTEP participant population is still used in the ROI calculation. Therefore, if any of the participants who were not included in the evaluation outcomes experienced positive employment impacts (which is very likely), the resulting ROI calculations would be larger than reported.
- **The employment outcomes of AmeriCorps members.** According to Friedman et al. (2016) in the national AmeriCorps Alumni Outcomes Survey study, the percentage of members unemployed was 5 percentage points lower six months after serving in AmeriCorps versus six months before.
- **The educational attainment outcomes of AmeriCorps members.** AmeriCorps members receive an education award after serving in the 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 earnings for AmeriCorps members.
- **Government funding serving 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 the ROI results. Federal government funding of AmeriCorps programs (such as for CTEP) serves as a catalyst for private and other government funding of evidence-based programs that benefit communities and society. This additional combined private and non-federal government funding—amounting to \$320,000 for CTEP for the most recent program year—allowed the CTEP program to enroll and provide training to more participants than otherwise would have been served under the federal funding alone, leading to greater total benefits realized.

Recommendations for Further Research

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

Recommendation 1: Ensure sample sizes for program evaluations are adequate and random. AmeriCorps grantees are required to conduct evaluations for their programs. To ensure findings are statistically representative of the population served, grantees should identify what the appropriate sample size should be for their outcome studies, which would differ by program based on the number served. As noted earlier, in the 2018 CTEP evaluation (Backman, 2018), the improved employment outcomes were derived from a sample of 272 survey respondents and the ROI calculation for CTEP applies those same outcomes to a population of 1,530 CTEP participants. For the employment outcomes to be statistically representative of this 1,530 population (at a 95 percent confidence interval and with a 5 percent margin of error), the survey sample needed to be 308 program participants. For the AmeriCorps studies used, this was not an issue. This is because their study samples were sufficient for their outcomes to be statistically representative of the 35 AmeriCorps members who served in CTEP during the most recent program year. Appropriate sample sizes—as well as those samples being random—will make the findings more reliable and provide greater confidence that the outcomes can be attributed to the intervention itself versus other confounding factors. Overall, larger sample sizes in these studies can provide a smaller margin of error, identify outliers in the data, and otherwise measure program impacts more accurately.

Recommendation 2: Document outcomes using third-party data. Using third-party data, along with or in place of self-reported data, can also improve the accuracy of program outcome measurements. While self-reported data are easier to obtain—especially via the use of survey instruments—it has several disadvantages. Some answers may be exaggerated, respondents may not answer honestly, and response biases could affect results. AmeriCorps programs should—where possible—leverage data from third-party sources either to provide data for their program evaluation or to corroborate findings from self-reported data. For example, if employment and earnings outcomes are of interest, unemployment insurance (UI) data—which are submitted by employers—could be used to verify participants' wages or employment status.

Recommendation 3: Ask detailed questions in surveys, including demographics. Also, it's important to stress to AmeriCorps programs that plan on using surveys in their program evaluations to not only ask detailed questions, but to ask questions that effectively capture all direct and indirect impacts of programming. For instance, programs should ask applicable demographic-based questions that make it possible to create comparison groups that match the demographic distribution of program participants. Additionally, for programs that may generate both employment and education outcomes (such as CTEP), grantees should collect information on whether program participants gained employment and additional educational attainment (such as degrees or certifications beyond those earned as part of participation in the program).

This information can be collected through post-program surveys at multiple points in time. The information could also be collected from administrative records, such as UI data (as described previously) for employment, and wages and data from the National Student Clearinghouse (NSC) for educational attainment. Grantees could also collect data on the post-program occupations of participants and whether the skills or certifications they obtained through the program were required for those occupations. These data could further establish the connection between programs and outcomes.

Recommendation 4: Determine the persistence of short- and long-term impacts for both program participants and AmeriCorps members. The persistence of impacts, such as earnings, is often not measured in evaluations since they require long-term tracking. Although a scenario-based approach that accounts for variations in the persistence of impacts can be used, as was completed in this ROI analysis, rigorous research on the long-term impact of programming will enable AmeriCorps to determine a single value for ROI calculations and avoid relying on the scenario-based approach. For example, in the CTEP evaluation, survey respondents reported their employment outcomes between 1 and 10 months after program exit. Instead of collecting outcome measures at a time that varies by program participant, grantees should track outcomes of interest at the same intervals, multiple times after program completion, to provide greater insight into the duration and consistency of benefits.

Recommendation 5: Quantify ripple effects. Earnings impacts on program participants and AmeriCorps members likely have positive benefits for those individuals' families and 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 increase the resulting ROI. Specifically, the longitudinal impacts of 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.

Conclusion

Based upon these findings, investment in CTEP results in favorable impacts across a variety of stakeholder groups. Specifically, impacts are realized by CTEP participants, AmeriCorps members, and the various levels of government. CTEP participants benefit from knowledge and skills gains—along with Northstar certifications of technology skills—that they can transfer to the labor market, which can lead to improved employment and earnings outcomes. As CTEP instructors, AmeriCorps members gain valuable work experience, preparing them for future employment or educational pursuits. The government benefits from the improved employment and earnings outcomes of both the CTEP participants and the AmeriCorps members because these improvements lead to additional tax revenue and reduced spending on public assistance and other government programming.

The ROI results indicate that the benefits realized by CTEP participants, AmeriCorps members, and the government outweigh the investment made by funders (e.g., federal, state, and local governments as well as local non-profits that provide program funding).²² The combined return to participants, members, and the government per federal (i.e., AmeriCorps) dollar is \$4.58 under the short-term scenario, \$33.35 under the medium-term scenario, and \$53.20 under the long-term scenario.

When all funding (from the various levels of government and other funders) is considered, the ROI across all stakeholder groups is \$2.95 under the short-term scenario, \$21.48 under the medium-term scenario, and \$34.26 under the long-term scenario. In other words, every \$1.00 of funding results in \$2.95, \$21.48, or \$34.26 in return for the scenarios, respectively.

Lastly, when considering the ROI to the federal government alone, the short-term, medium-term, and long-term scenario results are \$1.30, \$7.39, and \$11.60, respectively. This indicates that even under the most short-term scenario, the federal government still receives a \$1.30 return on each dollar invested, through increased revenue and cost savings, while also generating significant societal benefits to CTEP participants and AmeriCorps members.

²² Local non-profits predominantly consist of community centers, adult basic education centers, and workforce readiness centers.

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

Benefits

In Figure A-1, the three rightmost columns indicate by an “X” if the benefit is included in the numerator of a return on investment (ROI) calculation.

Figure A-1. Benefits Included in ROI Calculations

Benefit	Stakeholder Group	Data Sources	Total Benefits per Federal Dollar	Total Benefits per Funder Dollar	Federal Government Benefits per Federal Dollar
Increased earnings due to increased employment of program participants	Program participant	<ul style="list-style-type: none"> Backman (2018) American Community Survey (ACS; U.S. Census Bureau, n.d.) Consumer Price Index (CPI) inflation calculator (U.S. Bureau of Labor Statistics, n.d.) 	X	X	
Increased income tax revenue due to increased earnings of program participants	Federal and state governments	<ul style="list-style-type: none"> Backman (2018) ACS (U.S. Census Bureau, n.d.) CPI inflation calculator (BLS, n.d.) Tax rate data (Bankrate, 2020; Tax Foundation, 2019) 	X	X	X
Increased Social Security and Medicare tax revenue due to increased earnings of program participants	Federal government	<ul style="list-style-type: none"> Backman (2018) ACS (U.S. Census Bureau, n.d.) CPI inflation calculator (BLS, n.d.) Social Security Administration (2018) 	X	X	X

Benefit	Stakeholder Group	Data Sources	Total Benefits per Federal Dollar	Total Benefits per Funder Dollar	Federal Government Benefits per Federal Dollar
Increased sales tax revenue due to increased earnings of program participants	State and local governments	<ul style="list-style-type: none"> • Backman (2018) • ACS (U.S. Census Bureau, n.d.) • CPI inflation calculator (BLS, n.d.) • Consumer Expenditure Survey (BLS, 2020) • Tax rate data (Tax Foundation, 2019) 	X	X	
Reduced spending on annual public assistance, Supplemental Security Income (SSI), and Supplemental Nutrition Assistance Program (SNAP) payments due to increased earnings of program participants	Federal government	<ul style="list-style-type: none"> • Backman (2018) • ACS (U.S. Census Bureau, n.d.) • CPI inflation calculator (BLS, n.d.) • Consumer Expenditure Survey (BLS, 2020) 	X	X	X
Increased earnings of national service members due to increased employment and education of national service members	National service member	<ul style="list-style-type: none"> • Friedman et al. (2016) • Trostel (2015) • Zeidenberg et al. (2016) • ACS (U.S. Census Bureau, n.d.) • CPI inflation calculator (BLS, n.d.) • National Center for Education Statistics (NCES, 2018) 	X	X	

Benefit	Stakeholder Group	Data Sources	Total Benefits per Federal Dollar	Total Benefits per Funder Dollar	Federal Government Benefits per Federal Dollar
Increased income tax revenue due to increased earnings of national service members	Federal and state governments	<ul style="list-style-type: none"> Friedman et al. (2016) ACS (U.S. Census Bureau, n.d.) CPI inflation calculator (BLS, n.d.) NCES (2018) Tax rate data (Bankrate, 2020; Tax Foundation, 2019) 	X	X	X
Increased Social Security and Medicare tax revenue due to increased earnings of national service members	Federal government	<ul style="list-style-type: none"> Friedman et al. (2016) ACS (U.S. Census Bureau, n.d.) CPI inflation calculator (BLS, n.d.) NCES (2018) Social Security Administration (2018) 	X	X	X
Increased sales tax revenue due to increased earnings of national service members	State and local governments	<ul style="list-style-type: none"> Friedman et al. (2016) ACS (U.S. Census Bureau, n.d.) Consumer Expenditure Survey (BLS, 2020) NCES (2018) Tax rate data (Tax Foundation, 2019) 	X	X	

Benefit	Stakeholder Group	Data Sources	Total Benefits per Federal Dollar	Total Benefits per Funder Dollar	Federal Government Benefits per Federal Dollar
AmeriCorps member living allowances and education awards	National service member	<ul style="list-style-type: none"> Community Technology Empowerment Project (CTEP)²³ AmeriCorps²⁴ 	X	X	
Reduced spending on lifetime public assistance, corrections, and social insurance due to increased educational attainment of national service members	Federal, state, and local governments	<ul style="list-style-type: none"> Trostel (2015) Zeidenberg et al. (2016) ACS (U.S. Census Bureau, n.d.) 	X	X	X

²³ Unless otherwise cited, all information provided directly by CTEP for this report was received through ICF's personal communication with CTEP in 2020.

²⁴ Unless otherwise cited, all information provided directly by AmeriCorps for this report was received through ICF's personal communication with AmeriCorps in 2020.

Costs

In Figure A-2, the three rightmost columns indicate by an “X” if the cost is included in the denominator of an ROI calculation.

Figure A-2. Costs Included in ROI Calculations

Cost	Stakeholder Group	Data Sources	Total Benefits per Federal Dollar	Total Benefits per Funder Dollar	Federal Government Benefits per Federal Dollar
AmeriCorps costs for education awards, living allowances, and other CTEP program grant funding	Federal government (AmeriCorps)	<ul style="list-style-type: none"> AmeriCorps 	X	X	X
State and local government funding	State and local governments	<ul style="list-style-type: none"> CTEP 		X	
Other non-government costs	Non-government funders*	<ul style="list-style-type: none"> CTEP 		X	

*Note: This beneficiary includes local non-profits that predominantly consist of community, adult basic education, and workforce readiness centers.

Appendix B: Additional Information on the Methodology

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

Methodology Overview

Calculating the ROI for the Community Technology Empowerment Program (CTEP) included the following steps:

- Measuring and monetizing program benefits to CTEP participants, AmeriCorps members, and the different levels of government
- Assessing program costs
- Calculating the ROI

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

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

- **Short-Term.** This scenario assumes short-term earnings impacts. The assumption is that earnings impacts are limited to a single year.
- **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 2019 dollars.²⁵
- **Long-Term.** This scenario assumes sustained earnings impacts throughout CTEP participants' and CTEP AmeriCorps members' working years. The assumption is that earnings impacts last 30 years. A discount rate of 3 percent is applied to the earnings each year to represent present net value in 2019 dollars.

²⁵ 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).

The only difference between the three scenarios is the length of time that increased employment and earnings are sustained; all other benefits are constant across the scenarios.²⁶ For each ROI calculation, three ROI estimates using the three scenarios were developed, which is shown in greater detail in the *Calculating ROI* section.

Measuring Benefits

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

Benefits to CTEP Participants

The findings from Backman (2018), which include CTEP participants' employment and earnings outcomes post-program participation using data collected from a survey, are used to measure the impact of CTEP on program participants. Backman (2018) found that of those who passed at least one Northstar assessment and responded to the CTEP program survey, 10.3 percent were unemployed pre-program, were job seeking while enrolled in CTEP, gained employment post-program, and indicated that CTEP helped them in their job search. This ROI study uses this employment outcome to estimate the number of *additional* participants employed as a result of the CTEP program.

Specifically, as noted earlier in the report, 4,400 individuals participated in CTEP during the September 2018 to August 2019 program year. Of those, 2,001 took at least one Northstar assessment, of which 1,530 passed. To calculate the benefits of the CTEP program on participants in terms of employment gains, the 10.3 percent was applied to the number of CTEP participants who passed at least one Northstar assessment during the most recent program year (1,530). This calculation determined the number of individuals employed after participating in the CTEP program (i.e., 158 individuals).

To calculate conservatively the benefits associated with CTEP participants gaining employment, the study used a weighted employment rate (based on a similar demographic and geographic distribution to the CTEP participants), created using 2018 American Community Survey (ACS) data (U.S. Census Bureau, n.d.), to estimate the employability of CTEP participants in the absence of the CTEP program. In other words, this metric represents an assumed pre-program employment rate and denotes the portion of the aforementioned 158 CTEP participants who would eventually become employed even if they did not participate in the CTEP program. The actual employment outcome for the CTEP participants—derived from the Backman (2018)

²⁶ These three scenarios consider varying durations of how long increased employment and earnings benefits last for both CTEP participants and AmeriCorps members. Certain additional benefits are included equally across these three scenarios. For instance, lifetime benefits with regard to decreased public assistance, social insurance, and corrections costs as a result of members' higher educational attainment post-service are represented in each of these three scenarios equally. Thus, whether members' employment and earnings impacts are sustained for one year (i.e., short-term scenario) or 30 years (i.e., long-term scenario), the same amount of these cost savings is realized.

evaluation and denoted as participants' post-program employment rate—is then compared to the assumed demographically weighted, pre-program employment rate. This difference between the two determines the number of additional CTEP participants employed that is solely attributable to the CTEP program (i.e., benchmarking CTEP participants' employment post-program with what their employment would have been pre-program).

As noted previously, two of the scenarios in this study assume that benefits from improved employment are sustained (15 years and 30 years for the medium-term and long-term scenarios, respectively). However, some number of previously unemployed individuals served by CTEP would have found employment without the program. This analysis uses an estimated general employment rate of 72.3 percent to estimate the proportion of previously unemployed CTEP participants who would have gained employment even without completing the CTEP program. Specifically, this employment rate is weighted to account for the distribution of gender, age, race, and English as a second language status among the CTEP participants provided in the Backman (2018) study. This assumed pre-program employment rate is then multiplied by the 158 additional individuals employed to estimate the number of CTEP participants who would have been employed without participating in the program. Since this analysis only includes the CTEP participants who transitioned from unemployment to employment pre- versus post-program (i.e., the aforementioned 158 individuals), their associated employment rate is 100 percent. The difference in the number employed after the CTEP program and the number that is estimated to become employed at some point even if they didn't participate in CTEP is shown in Figure B-1. This difference (i.e., 44 individuals) represents the number of *additional* CTEP participants that became employed post-program that is solely attributable to the CTEP program.

Figure B-1. Additional Number Employed and Annual Median Earnings for CTEP Participants

CTEP Participants	Number Employed Post-CTEP*	Estimated Number That Would Become Employed without CTEP	Estimated Number Employed Solely Because of CTEP	Median Gross Annual Earnings (2019\$)	Median Net Annual Earnings (2019\$)**
CTEP Participants	158	114	44	\$30,763	\$22,202

Sources: Backman (2018), American Community Survey (U.S. Census Bureau, n.d.)

*Note: The CTEP participants who are included in the ROI analysis are only those who were unemployed pre-program and became employed post-program and attributed their employment to the program. Thus, the employment rate post-program is 100 percent. Of note, this is not the employment rate for all those who participated in the CTEP program during the most recent program year.

**Note: Median net annual earnings excludes payroll taxes paid on earnings (i.e., federal and state income, Social Security, and Medicare taxes) and accounts for the reduction in public assistance collected by CTEP participants as a result of increased earnings from obtaining employment.

To calculate the benefits of CTEP to program participants in terms of increased earnings (derived from the increased employment of the 44 CTEP participants), the median net annual earnings for CTEP participants (shown in Figure B-1) is multiplied by the number of individuals who are employed solely because of CTEP. This increase in net earnings is then spread over time depending on the scenario to create a cumulative sum of median net earnings for these *additional* CTEP participants who are estimated to be employed solely as a result of the CTEP program. Of note, the median gross annual earnings for the CTEP participants was provided by Backman (2018) and is representative of the population included in this ROI analysis (i.e., those who passed at least one Northstar assessment, responded to the CTEP program survey, were unemployed pre-program, were job seeking while taking CTEP classes, were employed post-program, and reported that CTEP helped them in their job search).

To avoid double counting, median *net* annual earnings is used to calculate the direct benefit to CTEP participants, rather than median *gross* annual earnings. The median net annual earnings in Figure B-1 excludes payroll taxes (federal and state income, Social Security, and Medicare). It also accounts for the reduced amount of public assistance that CTEP participants would be eligible for as a result of increased earnings from becoming employed—an estimated savings of \$577 per person whose employment is solely attributable to the CTEP program, based on reduced estimated public assistance payments of \$542 annually (see the discussion preceding Figure B-8 for details). This methodology avoids double counting benefits because the payroll taxes and the reduction in public assistance are counted as benefits to the government (explained later in the *Benefits to Government* section). The payroll tax rates and the assumptions made about the reduction in public assistance collection that are used to calculate median net earnings (based on the median gross earnings) are also described in the *Benefits to Government* section.

Based on these calculations, the cumulative median net earnings for the CTEP participants for the three different scenarios are shown in Figure B-2. These post-tax (net) monetary amounts represent the additional earnings realized due to the employment of the 44 CTEP participants whose employment gain is solely attributed to the CTEP program.

Figure B-2. Cumulative Increase in Median Net Earnings due to Participation in CTEP by Scenario

Scenario	Cumulative Increase in Median Net Earnings due to Participation in CTEP (2019\$)
Short-Term	\$987,237
Medium-Term	\$12,068,929
Long-Term	\$19,711,592

Sources: Backman (2018), American Community Survey (U.S. Census Bureau, n.d.)

Benefits to AmeriCorps Members

The AmeriCorps members who provide services to the CTEP participants also experience benefits due to their service. This analysis estimates the following benefits:

- Living allowance and education award
- Increased earnings due to increased education derived from the education award
- Additional earnings due to a 5 percentage point reduction in unemployment as a result of AmeriCorps service²⁷

Living Allowance and Education Award

Living allowances are given to AmeriCorps members during their one-year service term to pay for various living expenses, such as housing and groceries. Regarding education awards, according to Friedman et al. (2016), a significant portion (i.e., 46 percent) of AmeriCorps State and National alumni use them to pay for additional 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 pursue further education is used in calculating members' additional earnings due to the increased educational attainment they experience post-service from using the education award. This analysis included the post-tax values of the living allowance and the portion of the education award used to repay student loans as AmeriCorps member benefits (Figure B-3). The portion of the education award used to fund additional educational attainment is discussed in the following subsection.

Figure B-3. Additional AmeriCorps Member Benefits

Benefit	Post-Tax Value (2019\$)	Notes
Living Allowance (net)	\$209,709	Post-tax living allowances members receive during service
Education Award (net) Used to Pay Off Student Loans	\$41,592	Post-tax education award amount used to pay off outstanding student loans
Total	\$251,301	

Sources: CTEP,²⁸ Friedman et al. (2016)

²⁷ According to Friedman et al. (2016), the percentage of members unemployed was 5 percentage points lower six months after serving in AmeriCorps than six months before.

²⁸ Unless otherwise cited, all information provided directly by CTEP for this report was received through ICF's personal communication with CTEP in 2020.

Increased Earnings due to Increased Education Derived from the Education Award

The AmeriCorps education award pays for some portion of members’ increased educational attainment, and the future earnings derived from that educational attainment is treated as a direct benefit to AmeriCorps members. To calculate the portion of members’ increased educational attainment that is attributable to CTEP, tuition cost data from the National Center for Education Statistics (NCES, 2018) were used. Figure B-4 details the average total cost of tuition for each degree type (NCES, 2018), and the portion of the cost that the post-tax education award amount (i.e., \$3,942) represents (\$5,920²⁹ before taxes). These percentages were used to estimate the lifetime benefits of educational attainment that can be attributed to the education award. For instance, according to NCES (2018), the average annual cost of a public, in-state, four-year academic institution during the 2017 to 2018 academic year was \$20,050, which amounts to over \$84,000 for four years if expressed in 2019 dollars. The \$3,942 post-tax education award only represents 5 percent of the cost of that degree, so the AmeriCorps program, accordingly, could only be credited with 5 percent of the completion of an AmeriCorps member’s bachelor’s degree post-service.

Figure B-4. Average Total Cost of Education and Portion Attributable to Education Award by Degree Type

Degree Type	Average Cost (2019\$)*	Percent of Degree Tuition Covered by Post-tax Education Award (%)
Associate Degree	\$6,810	57.9%
Bachelor’s Degree	\$84,210	4.7%
Graduate Degree ³⁰	\$25,045	15.7%

Source: NCES (2018), CTEP

*Note: Costs were provided for the 2017 to 2018 academic year by NCES (2018) and are expressed in 2019 dollars since the post-tax education award amounts are in 2019 dollars.

To determine the future lifetime earnings (and later, the associated lifetime taxes, which are described in the *Benefits to Government* section) realized due to the use of the education award post-service, the 35 CTEP AmeriCorps members who served during the most recent program year are distributed by their pre-service highest level of educational attainment, as shown in Figure B-5. Then, the portion of these 35 AmeriCorps members who leveraged their education award to pay for additional educational attainment (i.e., 46 percent) is distributed across members’ pre-service

²⁹ The education award takes into account whether the AmeriCorps members were full- or part-time and were engaged over a full program year or an academic year. In addition, the analysis adjusts the value of education awards to dollars in the period studied. For those reasons, education award benefits per person may differ across national service programs.

³⁰ Assumes a two-year graduate program.

education levels. For example, 27 CTEP AmeriCorps members had a bachelor's degree pre-service. Friedman et al. (2016) indicates 46 percent of AmeriCorps alumni used their education award to pursue postsecondary degrees after program completion, making the number of CTEP AmeriCorps members who used their education award to pursue a degree higher than their bachelor's degree 12.4 (noted as "12" in Figure B-5).

Next, the difference in the additional lifetime earnings from one degree type to the subsequent degree type is estimated using data provided by Trostel (2015), which is shown in the fifth column of Figure B-5 and expressed in 2019 dollars. For instance, Trostel (2015) calculated that the lifetime earnings in 2019 dollars of someone with an associate degree is about \$890,000, while that of someone with a bachelor's degree is over \$1.3 million. The difference between these two metrics (roughly \$420,000) 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 CTEP AmeriCorps members due to an increase in educational attainment. To isolate the increase in educational attainment specific to members using the education award to pursue additional education, the number of CTEP AmeriCorps members who used the award for this purpose by degree type is reduced by the percent of the degree tuition that can be covered by the \$3,942 post-tax education award received post-service. 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 educational attainment that is credited to the use of the education award post-service. As noted in Figure B-5, this lifetime earnings amount is roughly \$400,000 across all CTEP AmeriCorps members who served in the most recent program year. Of note, these lifetime earnings are *in addition* to the earnings derived from CTEP AmeriCorps members' gains in employment as delineated in the subsequent section. While the earnings from AmeriCorps members' increased employment differs depending on the scenario (i.e., short-term, medium-term, and long-term) since it's uncertain how long these earnings will persist, the lifetime earnings calculated in Figure B-5 are constant across all three scenarios.

Figure B-5. Additional Earnings from AmeriCorps Members' Use of the Education Award

Degree Type	Number of CTEP AmeriCorps Members	Number of CTEP AmeriCorps Members Who Used Education Award for Schooling	Percent of Degree Tuition Covered by Education Award (%)	2019 Additional Lifetime Earnings (2019\$)	Additional Lifetime Earnings from Education Award (2019\$)
High School Diploma	5	2	0.0%	-	-
Associate Degree	1	0	57.9%	\$275,964	\$73,470
Bachelor's Degree	27	12	4.7%	\$424,577	\$246,822
Graduate Degree	2	1	15.7%	\$469,802	\$68,023
Total	35	16			\$388,316

Sources: NCES (2018), Trostel (2015)

Note: It's assumed that a public high school education is used and thus would be free; therefore, an education award could not be used to obtain this level of education and future earnings are not realized for this degree type. It's also assumed for the graduate degree type that a two-year program is used. Moreover, the counts of CTEP AmeriCorps members in the second column are rounded to the nearest whole integer.

Reduction in Unemployment due to AmeriCorps Service

According to the national AmeriCorps Alumni Outcomes Survey study (Friedman et al., 2016), the percentage of AmeriCorps members unemployed was 5 percentage points lower six months after serving in AmeriCorps compared to six months before. Friedman et al. (2016) did not provide actual employment rates for AmeriCorps members pre- and post-service, but instead provided the change in unemployment rates (a 5 percentage point decrease). Thus, to estimate the additional number of AmeriCorps members employed post-service attributable to the CTEP program, this analysis multiplied the 5 percentage point increase in employment by the number of CTEP AmeriCorps members who served during the most recent program year, as shown in Figure B-6. The analysis estimated the earnings of AmeriCorps members as a result of their increased employment using educational attainment data from Zeidenberg et al. (2016).

Figure B-6. Additional Number Employed and Annual Median Earnings for AmeriCorps Members

AmeriCorps Members	Number of CTEP AmeriCorps Members	Percentage Point Increase in AmeriCorps Members' Employment (%)	Number Employed Attributable to AmeriCorps	Median Gross Annual Earnings (2019\$)	Median Net Annual Earnings (2019\$)*
AmeriCorps Members	35	5%	2	\$47,979	\$31,945

Sources: Zeidenberg et al. (2016), Friedman et al. (2016), American Community Survey (U.S. Census Bureau, n.d.)

*Note: Median net annual earnings excludes payroll taxes paid on earnings (i.e., federal and state income, Social Security, and Medicare taxes).

Figure B-7 shows the cumulative median net earnings for the additional AmeriCorps members employed for the three different scenarios (i.e., short-term, medium-term, and long-term). These post-tax (or net) monetary amounts represent the additional earnings realized due to the AmeriCorps members serving in CTEP whose employment is solely attributed to the program.

Figure B-7. Cumulative Median Net Earnings for AmeriCorps Members by Scenario

Scenario	Cumulative Median Net Earnings for CTEP Participants (2019\$)
Short-Term	\$55,903
Medium-Term	\$683,414
Long-Term	\$1,116,187

Sources: Zeidenberg et al. (2016), American Community Survey (U.S. Census Bureau, n.d.)

Benefits to Government

State and Local Government

State and local government benefits from CTEP are realized through the generation of additional state income tax revenue from increased employment, state and local sales tax revenue from increased employment, and reduced lifetime spending on social insurance and corrections as well as increased lifetime state and local taxes due to the increased educational attainment of AmeriCorps members post-service. Additionally, state government revenue is derived from the taxable portion of the living allowances and education award received by AmeriCorps members.

State Income Tax Revenue: To measure income tax revenue generation that stems from increased employment for state governments (any local income taxes are not included), the additional gross median earnings of CTEP participants and AmeriCorps members that are solely attributed to the CTEP program are taxed by a state income tax rate. For CTEP participants' additional gross median earnings, the 2019 Minnesota state income tax rate of 6.8 percent is used, while for AmeriCorps members' gross median earnings, the nationwide average 2019 state income tax rate of 3.8 percent is used (Tax Foundation, 2019). For the additional earnings of AmeriCorps members that stem from their increase in educational attainment—driven by the use of the education award—Trostel (2015) provides the additional lifetime state income taxes gained. Moreover, both living allowance and education award amounts given to AmeriCorps members post-service are taxed by the same state income tax (i.e., 3.8 percent) used to calculate tax revenue from AmeriCorps members' increased earnings that stem from increased employment.

State and Local Sales Tax Revenue: To measure sales tax revenue generation that stems from increased employment for state and local governments, the amount of CTEP participants' and AmeriCorps members' additional median *net* earnings that are spent on taxable goods is taxed by a sales tax rate. For CTEP program participants, the summation of the 2019 Minnesota state sales tax rate of 6.9 percent and Minnesota's average local sales tax rate of 0.5 percent (Tax Foundation, 2019) is used, amounting to 7.4 percent. For AmeriCorps members' additional earnings and living allowance amounts, the average 2019 combined state and local average sales tax rate across the U.S. of 6.5 percent is used (Tax Foundation, 2019).

To estimate the amount of CTEP participants' and AmeriCorps members' median earnings as a result of improved employment that is spent on taxable goods, data from the Consumer Expenditure Survey (BLS, 2020) are used. These data show the amount of spending on a number of different goods and services by national consumers across several different income brackets. 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 earnings of the CTEP participants and AmeriCorps members; for CTEP participants this proportion is 42 percent, while for AmeriCorps members it's 28 percent. The difference between these proportions is a result of the different income brackets CTEP participants and AmeriCorps members fall into. These proportions are then applied to CTEP participants' and AmeriCorps members' median net earnings to calculate the post-tax monetary amount they spend on taxable goods, and then sales tax rates are applied accordingly to estimate the resulting sales tax revenues that go to state and local governments. For AmeriCorps members' gross living allowance amount, the portion AmeriCorps members spent on taxable goods (28 percent) along with the 6.5 percent sales tax rate is applied to calculate additional tax revenue to state and local governments.

Additional lifetime sales taxes realized for state and local governments—as a result of AmeriCorps members using their education award to achieve higher educational attainment post-service—are provided by Trostel (2015).

State and Local Government Cost Savings: State and local governments also benefit from CTEP through lifetime savings in social insurance and corrections—as reported in Trostel (2015)—due to the increase in AmeriCorps members’ educational attainment after program exit. Of note, social insurance includes unemployment insurance compensation and workers’ compensation. To conservatively calculate these lifetime non-federal government savings, the pre-service education levels of AmeriCorps members is first compared to their post-service education levels, with the latter provided by Zeidenberg et al. (2016). This calculation determines the change in lifetime costs (and thus savings) in corrections and social insurance based on the differences in education levels among CTEP AmeriCorps members (see Figure B-9). To determine what portion of this differential represents lifetime savings to state or local governments versus the federal government, a different method is 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 is determined based on the U.S. incarcerated population in 2019. Specifically, the number of individuals housed in federal government institutions (9.7 percent) versus state and local facilities (90.3 percent) was used to divide up these savings (Sawyer & Wagner, 2019). Therefore, over 90 percent of the lifetime cost savings in corrections due to AmeriCorps members experiencing an increase in educational attainment pre- to post-service are allocated to state and local governments.

Federal Government

The federal government benefits from the CTEP program in terms of increased tax revenue (e.g., federal income, Social Security, and Medicare taxes) from CTEP participants’ and AmeriCorps members’ increased additional earnings that are derived from increased employment and from the taxable portion of the living allowances and education award received by AmeriCorps members. Benefits are also realized in the form of cost savings in public assistance, social insurance, and corrections expenditures due to CTEP participants’ improved employment and AmeriCorps members’ increased educational attainment post-service.

Federal Income Tax Revenue: To measure federal income tax revenue that stems from employment, the additional median gross earnings of CTEP participants and AmeriCorps members that are solely attributed to the CTEP program—including the living allowances and education awards received by AmeriCorps members—are taxed by a federal income tax rate. This rate is based on the estimated median gross annual earnings of CTEP participants and AmeriCorps members and the gross amount in living allowances and education awards received by members. For CTEP participants, the 2019 federal income tax rate is 12 percent, while for AmeriCorps members, the rate used is 22 percent, based on their earnings. The tax rate used for the living allowances and education awards is also 22 percent (Bankrate, 2020). The difference in the federal income tax rates stems from participants’ and members’ earnings amounts after participating or serving in the CTEP program, respectively, which are associated with different federal income tax brackets. For the additional lifetime earnings of AmeriCorps

members that is based on their increase in educational attainment—fueled by the use of the education award to pursue further education—Trostel (2015) provides additional lifetime federal income taxes.

Social Security and Medicare Tax Revenue: Social Security and Medicare tax revenue are measured the same way as federal income tax (i.e., by measuring the fiscal gain as a result of earnings from increased employment and the gross amount in living allowances and education awards 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 1.5 percent, respectively; thus, these rates are applied to the additional median gross earnings for both CTEP participants and AmeriCorps members to calculate the additional amount of revenue the federal government receives. These same rates are also applied to the gross living allowance and education award amounts received by members to calculate additional tax revenue. Moreover, additional lifetime Social Security tax revenue realized for the federal government—as a result of AmeriCorps members using their education award to complete different higher education degree types 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 improved employment (and thus increased earnings) of CTEP participants as well as the increased educational attainment of AmeriCorps members after program exit. In this ROI analysis, reductions in public assistance, social insurance, and corrections costs are realized for AmeriCorps members, but only reductions in public assistance payments are realized for CTEP participants; this is because educational attainment data for CTEP participants were not provided to use the same proxies from the Trostel (2015) study as were used for the AmeriCorps members. Thus, though both groups experience benefits from the CTEP program that result in decreases in federal government costs, the sources and methodology used for each group slightly differ due to data availability.

To estimate the savings in public assistance spending that resulted from the employment gains of CTEP participants post-program participation, data from the Consumer Expenditure Survey (BLS, 2020)—specifically for the Midwestern region, which is where Minnesota is located—are used. Figure B-8 shows the amount of income the average household receives, by income bracket, from the federal government in public assistance (i.e., Temporary Assistance for Needy Families or TANF, Supplemental Nutrition Assistance Program or SNAP, Supplemental Security Income or SSI, etc.). The amount of public assistance spending on CTEP participants before program participation was \$1,119 annually, since the CTEP participants whose outcomes are included in this ROI analysis were unemployed pre-program, meaning they had little to no income. Based on CTEP participants' median gross annual earnings from Figure B-1, the public assistance spending amount per person was reduced to \$542 annually. The difference (\$577 per person employed due to CTEP), which represents the per person savings to the federal government in terms of public assistance spending, is then applied to the number of *additional* CTEP participants employed that is attributed solely to the CTEP program (i.e., the 44 individuals), and spread over time depending on the scenario.

Figure B-8. 2018 Average Annual Public Assistance Payments by Income Range for Midwestern Region

Payment Source	Less than \$15,000 (\$)	\$15,000 to \$29,999 (\$)	\$30,000 to \$39,999 (\$)	\$40,000 to \$49,999 (\$)	\$50,000 to \$69,999 (\$)	\$70,000 to \$99,999 (\$)	\$100,000 to \$149,999 (\$)	\$150,000 to \$199,999 (\$)	\$200,000 and more (\$)
Public Assistance (TANF, SNAP, SSI, etc.)	\$1,119	\$746	\$542	\$374	\$242	\$108	\$145	\$36	\$32

Source: Consumer Expenditures Survey (BLS, 2020)

In addition to the fiscal cost savings derived from the improved employment and earnings of CTEP participants, the federal government also spends less on AmeriCorps members after the completion of their national service terms. Using the findings of Trostel (2015), which were referenced earlier in this section, the increased educational attainment that AmeriCorps members achieve after national service—provided by Zeidenberg et al. (2016)—was used to estimate the federal government portion of lifetime cost savings on social insurance (which is comprised of worker’s compensation and unemployment insurance compensation, as noted earlier), public assistance (e.g., SNAP, Medicaid, TANF, etc.), and corrections. Figure B-9 shows the lifetime costs to the federal versus the state and local governments for each of these areas—where applicable—by education level. To conservatively calculate the federal government’s lifetime savings, the pre-service education levels of AmeriCorps members are first compared to their post-service education levels. The differences between the public assistance, federal social insurance, and federal corrections costs for the pre- versus post-service education levels represent the cost savings realized by the federal government due to the increased educational attainment level of a CTEP AmeriCorps member post-service. As previously mentioned when discussing the state and local governments’ allocation of the reduction in lifetime social insurance and corrections expenditures, the federal government receives 50 percent of the lifetime cost savings in unemployment insurance compensation (part of social insurance; Oswald, 2018), and almost 10 percent of the lifetime cost savings in corrections (Sawyer & Wagner, 2019).

Figure B-9. Government Costs from Increased Educational Attainment Level per Individual’s Lifetime

Source of Government Saving	High School Diploma (2012\$)	Associate Degree (2012\$)	Bachelor’s Degree (2012\$)	Graduate Degree (2012\$)
Public Assistance	\$54,155	\$31,803	\$14,480	\$9,394
Social Insurance	\$9,584	\$8,209	\$5,863	\$4,732
Federal	\$3,964	\$3,570	\$2,660	\$2,090
State/Local	\$5,620	\$4,639	\$3,204	\$2,643

Source of Government Saving	High School Diploma (2012\$)	Associate Degree (2012\$)	Bachelor's Degree (2012\$)	Graduate Degree (2012\$)
Corrections	\$8,488	\$4,055	\$1,190	\$725
Federal	\$822	\$393	\$115	\$70
State/Local	\$7,666	\$3,662	\$1,075	\$655
Total	\$72,227	\$44,067	\$21,533	\$14,851

Source: Trostel (2015)

Figure B-10 shows the tax rates that were applied to CTEP participants' and AmeriCorps members' additional median gross and net earnings (which were derived from increased employment), depending on the type of revenue being calculated. Differences in tax rates used were largely driven by differences in earnings and the geographic distribution of these two groups, as detailed in the last column.

Figure B-10. 2019 Tax Rates and Ratio of Taxable Expenditures for CTEP Participants and AmeriCorps Members

Metric	CTEP Participant Rate (%)	AmeriCorps Member Rate (%)	Notes
Federal Income Tax	12.0%	22.0%	<ul style="list-style-type: none"> CTEP Participants: Tax rate for second lowest federal income tax bracket; based on the median gross annual earnings of CTEP participants due to increased employment AmeriCorps Members: Tax rate for third lowest federal income tax bracket; based on the median gross annual earnings of AmeriCorps members due to increased employment
State Income Tax	6.8%	3.8%	<ul style="list-style-type: none"> CTEP Participants: Tax rate for second lowest state income tax bracket for Minnesota; based on the median gross annual earnings of CTEP participants due to increased employment AmeriCorps Members: Average of state income taxes for the U.S.; based on the median gross annual earnings of AmeriCorps members due to increased employment
Social Security Tax	6.2%	6.2%	<ul style="list-style-type: none"> Social Security tax rate for employees and employers

Metric	CTEP Participant Rate (%)	AmeriCorps Member Rate (%)	Notes
Medicare Tax	1.5%	1.5%	<ul style="list-style-type: none"> Medicare tax rate for employees and employers
Sales Tax	7.4%	6.5%	<ul style="list-style-type: none"> CTEP Participants: Combined state and average local sales tax rate for Minnesota AmeriCorps Members: Average combined state and local sales tax rate for the U.S.
Ratio of Taxable Expenditures per National Consumer	42.0%	28.0%	<p>Percent of net income spent on taxable goods and services; used to calculate sales tax from net earnings:</p> <ul style="list-style-type: none"> CTEP Participants: Based on the median gross annual earnings of CTEP participants due to increased employment AmeriCorps Members: Based on the median gross annual earnings of AmeriCorps members due to increased employment

Sources: Tax Foundation (2019), Bankrate (2020), Social Security Administration (2018), Consumer Expenditures Survey (BLS, 2020)

Summary of Benefits to Government

Figure B-11 shows the amount of tax revenue generated and savings in expenditures for state and local versus federal government that are solely credited to the CTEP program and calculated using the methods described above. The data are broken out by CTEP participants and AmeriCorps members for each of the three scenarios. These government revenue and savings amounts are benefits that are included in the three ROI calculations.

Figure B-11. State/Local and Federal Government Benefits by Stakeholder Group and by Scenario

Benefit Type	Benefit (2019\$)		
	Short-Term	Medium-Term	Long-Term
CTEP Participant-Derived Benefits			
State/Local Government Benefits	\$122,052	\$1,492,079	\$2,436,940
State Income Tax Revenue from Employment (Minnesota state tax rate: 6.8%)	\$91,274	\$1,115,822	\$1,822,418
State and Local Sales Tax Revenue from Employment	\$30,778	\$376,257	\$614,522

Benefit Type	Benefit (2019\$)		
	Short-Term	Medium-Term	Long-Term
(Minnesota state and local tax rate: 7.4%)			
Federal Government Benefits	\$289,412	\$3,538,054	\$5,778,530
Federal Income Tax Revenue from Employment (Federal tax rate: 12.0%)	\$161,072	\$1,969,098	\$3,216,031
Social Security & Medicare Tax Revenue from Employment (Federal Social Security tax rate: 6.2%) (Federal Medicare tax rate: 1.5%)	\$102,683	\$1,255,300	\$2,050,220
Savings in Reduced Public Assistance from Employment (Lifetime)	\$25,657	\$313,656	\$512,279
AmeriCorps Members-Derived Benefits			
State/Local Government Benefits	\$ 92,519	\$139,510	\$171,916
State Income Tax Revenue from Living Allowances and Education Awards* (Average state tax rate: 3.8%)	\$19,008	\$19,008	\$19,008
State and Local Sales Tax Revenue from Living Allowances* (Average state and local tax rate: 6.5%)	\$3,831	\$3,831	\$3,831
State Income Tax Revenue from Employment (Average state tax rate: 3.8%)	\$3,165	\$38,692	\$63,193
State and Local Sales Tax Revenue from Employment (Average state and local tax rate: 6.5%)	\$1,021	\$12,485	\$20,390
State Income, Sales, and Property Taxes from Educational Attainment (Lifetime)	\$34,838	\$34,838	\$34,838
Savings in Reduced Social Insurance and Corrections Spending from Educational Attainment (Lifetime)	\$30,656	\$30,656	\$30,656
Federal Government Benefits	\$461,906	\$741,353	\$934,077
Federal Income Tax Revenue from Living Allowances and Education Awards* (Federal income tax rate: 22.0%)	\$110,940	\$110,940	\$110,940
Social Security and Medicare Tax Revenue from Living Allowances and Education Awards* (Federal income tax rate: 22.0%)	\$38,577	\$38,577	\$38,577
Federal Income Tax Revenue from Employment (Federal income tax rate: 22.0%)	\$18,472	\$225,819	\$368,818
Social Security and Medicare Tax Revenue from Employment	\$6,423	\$78,523	\$128,248

Benefit Type	Benefit (2019\$)		
	Short-Term	Medium-Term	Long-Term
(Federal Social Security tax rate: 6.2%) (Federal Medicare tax rate: 1.5%)			
Federal Income Tax Revenue from Educational Attainment (Lifetime)	\$85,987	\$85,987	\$85,987
Social Security Tax Revenue from Educational Attainment (Lifetime)	\$56,880	\$56,880	\$56,880
Savings in Reduced Social Insurance, Corrections, and Public Assistance Spending from Employment (Lifetime)	\$144,627	\$144,627	\$144,627
Total	\$965,889	\$5,910,996	\$9,321,463

* Living allowances and education awards are one-time taxable payments. The resulting tax revenue does not vary by scenario.

Of note, the federal and non-federal government estimates of reduced lifetime social insurance, corrections, and public assistance spending as well increased lifetime taxes from AmeriCorps members' use of the education award do not vary across the three scenarios (i.e., short-term, medium-term, and long-term) because they are not dependent on how long the increased employment and associated earnings of AmeriCorps members are sustained post-service. Rather, they are derived from AmeriCorps members' increased educational attainment post-national service.

Measuring Costs

Figure B-12 shows the costs of CTEP by funding source. AmeriCorps is the leading funder for CTEP, covering more than two-thirds of the program's annual operating costs. Other non-federal government funders matched 55 percent of AmeriCorps's contribution for the most recent, completed program year. That matched amount represented 36 percent of total CTEP program funding for the year.

Figure B-12. Funding Sources and Amounts for CTEP (September 2018 – August 2019)

Source	Amount (\$)	Details
Federal Government Funding (AmeriCorps)	\$578,720	
Living Allowances	\$314,970	Covers members' living allowances during their service term
Education Awards	\$74,449	Amount of education awards given to members post-service
Other	\$189,301	Used to pay for CTEP staff salaries and other expenses/administrative fees like AmeriCorps members' FICA
State/Local Government Funding	\$136,000	
Non-government Funding³¹	\$184,000	
Total	\$898,720	

Source: CTEP

Calculating ROI

To calculate the three ROI calculations for CTEP, the sum of applicable benefits is compared to the cost of the program. As described previously, these three ROI calculations are calculated for each of the three aforementioned scenarios: short-term, medium-term, and long-term.

Since two of the ROI calculations include benefits to society (i.e., CTEP program participants and AmeriCorps members), the results are expressed as a cost-benefit ratio, while maintaining ROI terminology.³² Although not shown as a ratio, the ROI results are interpreted as the amount of dollars returned for every \$1.00 of investment (or cost).

³¹ This funder group includes local non-profits that predominantly consist of community centers, adult basic education centers, and workforce readiness centers.

³² ROIs are often expressed as percentages when measuring the financial return to a single entity from that entity's investment. Although this is consistent with one of the three ROI metrics reported (i.e., federal government benefits per federal dollar), since the other ROIs lend themselves to a cost-benefit ratio, that ratio is consistently used for all three metrics. Although not shown as a ratio, the results should be interpreted as the return for every dollar of investment.

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

$$\text{Total Benefits per Federal Dollar} = \frac{\text{Benefits to CTEP Participants} + \text{Benefits to AmeriCorps Members} + \text{Benefits to the Government}}{\text{Federal (AmeriCorps) Funding}}$$

$$\text{Total Benefits per Funder Dollar} = \frac{\text{Benefits to CTEP Participants} + \text{Benefits to AmeriCorps Members} + \text{Benefits to the Government}}{\text{Federal (AmeriCorps) Funding} + \text{Required Match Funding} + \text{Other Funding}}$$

$$\text{Federal Government Benefits per Federal Dollar} = \frac{\text{Benefits to the Federal Government}}{\text{Federal (AmeriCorps) Funding}}$$

Figures B-13, B-14, and B-15 show the total benefits, costs, and ROI results for each scenario.

Figure B-13. ROI Calculations for Short-Term Scenario

Benefits/Costs	Total Benefits per Federal Dollar (2019\$)	Total Benefits per Funder Dollar (2019\$)	Federal Government Benefits per Federal Dollar (2019\$)
Total Benefits	\$2,648,646	\$2,648,646	\$751,318
Total Costs	\$578,720	\$898,720	\$578,720
Result	\$4.58	\$2.95	\$1.30

Figure B-14. ROI Calculations for Medium-Term Scenario

Benefits/Costs	Total Benefits per Federal Dollar (2019\$)	Total Benefits per Funder Dollar (2019\$)	Federal Government Benefits per Federal Dollar (2019\$)
Total Benefits	\$19,302,954	\$19,302,954	\$4,279,406
Total Costs	\$578,720	\$898,720	\$578,720
Result	\$33.35	\$21.48	\$7.39

Figure B-15. ROI Calculations for Long-Term Scenario

Benefits/Costs	Total Benefits per Federal Dollar (2019\$)	Total Benefits per Funder Dollar (2019\$)	Federal Government Benefits per Federal Dollar (2019\$)
Total Benefits	\$30,788,860	\$30,788,860	\$6,712,607
Total Costs	\$578,720	\$898,720	\$578,720
Result	\$53.20	\$34.26	\$11.60

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