Return on Investment Study: Colorado Home Instruction for Parents of Preschool Youngsters (HIPPY) Program

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Executive Summary

Program Description

Parent Possible is a Colorado-based organization that equips parents with the tools they need for success in their children's education and lives. Parent Possible has administered Home Instruction for Parents of Preschool Youngsters (HIPPY) since 1991. HIPPY is a home visitation program model with a curriculum to promote children's development prior to kindergarten. The HIPPY program model is in use throughout the United States and internationally.

AmeriCorps, the federal agency for national service and volunteerism, provides opportunities for Americans to serve their country domestically, address the nation's most pressing challenges, improve lives and communities, and strengthen civic engagement. Each year, the agency places more than 200,000 AmeriCorps members and AmeriCorps Seniors volunteers in intensive service roles; and empowers millions more to serve as long-term, short-term, or one-time volunteers. Learn more at AmeriCorps.gov.

In Parent Possible's implementation of HIPPY, AmeriCorps members work with parents one on one with weekly visits. At home visits, parents roleplay the activities from the curriculum, which foster the development of early literacy, social/emotional skills, and other cognitive and physical skills in their children. All home visitors are supervised by professionally trained program coordinators.

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

The ROI analysis estimated Parent Possible's HIPPY program's ROI to be between $0.12 and $4.51 per funder dollar, depending on how long HIPPY children and AmeriCorps members experience increased earnings as a result of the program. The return on each dollar of federal support for the program is between $0.21 and $8.21. Positive results in medium- and long-term scenarios are driven by favorable employment and education outcomes for AmeriCorps members following their service; reduced expenditures by federal state, and local governments due to reduced repeated grades by students; and favorable employment outcomes for the preschool-age children of parents participating in HIPPY, once those children have grown up and entered the workforce.

Overview of Benefits and Costs

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

- **Additional lifetime earnings resulting from improved education and employment outcomes**. Because of the program, parents receive services that strengthen the educational foundation of their preschool-age children (termed *HIPPY children* throughout the report). As a result, HIPPY children will have higher lifetime earnings.

- **Reduced education expenditures for government.** Federal, state, and local governments spend less on education because fewer HIPPY children are later held back (retained) in 9th grade.
- **Additional earnings by AmeriCorps members.** Serving in AmeriCorps leads to increased wages and reduced unemployment post-national service through skill acquisition, as well as increased educational attainment post-service.
- **Living allowances, stipends, and education awards.** AmeriCorps members receive living allowances and stipends during their national service and receive a Segal AmeriCorps Education Award after successful completion.
- **Increased tax revenue for government.** Federal, state, and local governments receive more income tax revenue from increased AmeriCorps member earnings post-service and from HIPPY children once they enter the workforce. State and local governments also realize additional sales tax revenue related to those earnings. Federal and state governments also realize tax revenue from the taxable living allowances, stipends, and education awards provided to AmeriCorps members.
- **Reduced lifetime spending on corrections, public assistance, and social insurance.** Because of the increase in secondary and postsecondary educational attainment for AmeriCorps members and HIPPY children, federal and state governments spend less on these items.

The estimated annual cost for Parent Possible's HIPPY program is $2,670,146, of which $1,467,015 is estimated to be funded by the federal government, or roughly 53 percent.

ROI Results

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

Table ES-1. ROI Estimates

ROI calculation	ROI scenario		
	Short-term	Medium-term	Long-term
Total benefits per federal dollar	$0.21	$7.13	$12.32
Total benefits per funder dollar	$0.12	$3.92	$6.77
Federal government benefits per federal dollar	$0.04	$1.92	$4.01

The program produces strong returns for the medium- and long-term scenarios for all ROI calculations. The magnitude and direction of the results of the ROI calculations are driven by several factors:

- **Income gains by HIPPY children due to higher educational attainment.** HIPPY children enjoy increased earnings during their working years attributable to their increased educational attainment.
- **Additional earnings by AmeriCorps members.** Serving in AmeriCorps leads to increased wages and reduced unemployment post-national service through skill acquisition, as well as increased educational attainment post-service.
- **Reduced lifetime spending on corrections, public assistance, and social insurance**. Because of the increase in secondary and postsecondary educational attainment for AmeriCorps members and HIPPY children, federal and state governments spend less on these items.

In the short-term scenario—which only includes benefits for 1 year post-program—the ROI results indicate that there is a short-term loss under all three ROI calculations. An ROI that is below $1 in the first year post-program is common in programs where there is an initial one-time investment made and benefits accrue in the following years. This is because it can require several years of benefits to recoup the initial investment and generate positive returns.

Introduction

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

This project's federal fiscal year 2023 activities began with a comprehensive literature review and preliminary assessments of whether ROI analyses were feasible for five national service programs. These feasibility studies included thorough reviews of these programs' recent evaluations, detailed logic models, proposed ROI analysis methodologies for each program, and a scorecard mechanism that determined the viability of conducting an ROI analysis for each selected program.

Upon completion of five feasibility studies, AmeriCorps selected four programs to be the subjects of ROI studies for fiscal year 2022: AmeriCorps Urban Safety (AMUS) Program, Montana Conservation Corps, Green City Force, and the Parent Possible HIPPY program. This ROI study measures the benefits of the Parent Possible HIPPY program against costs.

This study is organized into five sections:

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

Program Description

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In Parent Possible's implementation of HIPPY, members work with parents one on one with weekly visits. At home visits, parents roleplay the activities from the curriculum, which foster the development of early literacy, social/emotional skills, and other cognitive and physical skills in their children. All home visitors are supervised by professionally trained program coordinators.

Population Served

Table 1 shows the demographic characteristics of the children served by Parent Possible's HIPPY program.[1] The students served by the program are diverse in terms of age, race, gender, location, and other background characteristics. The majority of HIPPY children served are non-white and low-income. 705 children ages 2 to 5 were served by the program in the 2018–2019 academic year, prior to any disruptions from the COVID-19 pandemic that began in 2020.

[1] Rachel Breck, Parent Possible contact, personal communication, January 19, 2023. Hereafter, all instances of Parent Possible referenced as a data source were retrieved from this communication.

Table 1. Selected Demographic Characteristics of Children Served Through Parent Possible's HIPPY Program During Fiscal Year 2018–2019[2]

Characteristic	Percentage
Race/ethnicity	
Hispanic/Latino	68%
Black/African American	4%
White	21%
Asian	3%
Multiracial	3%
Gender	
Female	49%
Male	51%
Age	
2	3%
3	45%
4	39%
5	12%
6	0%
7	0%

Source: Parent Possible

Parent Possible HIPPY Program Evaluation History

School Performance in Elementary, Middle, and High School: A Comparison of Children Based on HIPPY Participation During the Preschool Years[3]

This evaluation studied the impact of HIPPY across several student-related outcomes at a HIPPY program in Texas. The authors found children who participated in HIPPY had better standardized assessment scores, attendance, and discipline records. The authors also found that HIPPY reduced repeated grades, with HIPPY children being held back to repeat grades less often.

To evaluate the effectiveness of the treatments, the authors matched HIPPY children with children of similar demographics who did not participate in HIPPY. They were

[2] This fiscal year was representative of the most recent data available regarding the population served.

[3] Brown, A. & Lee, J. (2014). School performance in elementary, middle, and high school: A comparison of children based on HIPPY participation during the preschool years. *School Community Journal*, *24*(2), 83–106. https://files.eric.ed.gov/fulltext/EJ1048627.pdf

matched based on gender, ethnicity, and socioeconomic status, among other characteristics. Data was from school district administrative records.

The study found that repeating the 9th grade for HIPPY children was 52.8 percentage points lower than non-participants. That finding was statistically significant at all reasonable levels. This finding was used in the present ROI analysis based on the literature connecting repeating the 9th grade to high school graduation and, from that milestone, to earnings outcomes.

Selection of Program for the AmeriCorps ROI Project

ICF recommended making the Parent Possible HIPPY program the subject of an ROI study based on recent evaluations that documented program outcomes. These were related to high school graduation rates of HIPPY children who received home visits.

This ROI analysis of Parent Possible's program will have relevance to similar HIPPY programs nationwide and other home visitation programs for young children.

Comparable ROI Estimates

ROI studies of other programs that offer similar services provide context for a potential set of ROI estimates for Colorado HIPPYCorps. Table 2 summarizes information across studies.

Education-Focused Services

Lynch (2021) estimated the hypothetical benefits and costs associated with the American Families Plan's proposed preschool program. The benefits for children would include better math, reading, and language abilities as they transition into kindergarten; less repetition of grades and need for special education; and higher graduation and educational attainment rates. They also would experience less childhood neglect and abuse, were better fed, and had better health. As adults, recipients of the program were expected to have higher employment rates, higher earnings, and lower rates of public assistance. They were also expected to exhibit lower rates of drug use, less frequent and less severe criminal activities, and lower incarceration rates. The study also posited that HIPPY children family members would benefit and would be more likely to invest in their own health and education. The overall benefits for society would include fewer tax dollars spent on repeated grades and special education services for HIPPY children. The study also estimated reduced spending on public assistance. Lynch estimated that the breakeven point for the proposed program is over 10 years and would have an ROI of $4.93 over 35 years.

According to an ROI analysis conducted by Masse & Barnett (2010), there was a positive return for preschools that adopted the Abecedarian Early Childhood Intervention Program. The study estimated benefits that included increased participant earnings, increased maternal earnings, decreased K-12 education costs, decreased likelihood of smoking, decreased healthcare needs, and decreased consumption of public benefits. The costs consisted of program costs depending on the setting.
The study estimated the ROI to be between $1.21 and $2.87 over HIPPY children's lifetimes, depending on the discount rate applied to future benefits.

Family and Child Development Services

ICF (Naugler et al., 2021) estimated the ROI of a parental support program to reduce child neglect and abuse. Program participants receive training and resources that support the development of empathetic relationships between parents and children. The benefits of this program include increased earnings for children (as adults) and their parents, living allowance and education awards for AmeriCorps participants, and increased tax revenue for government entities. The costs include opportunity costs such as forgone wages of AmeriCorps participants and forgone returns for other potential investments of program funds. The total benefits per funder dollar were $0.50 for short-term impacts (1 year post-program), $1.44 for medium-term impacts (15 years), and $2.11 for long-term impacts (30 years).

Borden et al. (2021) calculated the costs and benefits for Sustainable Community Projects (SCPs) over the course of one fiscal year. SCPs provided programs and initiatives that enhanced the well-being of children, youth, and their families. The benefits were represented in three categories: education, health, and social behavior. The estimated return per youth for the program ranged from $2.04 to $6.11.

Dodge et al. (2021) explored the costs and benefits of a home visitation program for early childhood and infant development. The program invests resources to prevent child abuse and neglect and reduce emergency medical costs. The benefits were the estimated lifetime costs of child neglect avoided by the intervention. Dodge estimated the return on program funding for groups of families, based on family characteristics. The home visitation services to families only eligible for Medicaid yielded an estimated return of $0.89. Services to families enrolled in Medicaid and for which the mother had only birthed one child yielded $0.41. The home visitation services to any family that met criteria for clinical risks, without Medicaid or primiparous mother requirements included, yielded a return of $1.12.

Table 2. Relevant Studies and Their Findings

Study	Study area	Benefits/cost savings evaluated	ROI estimate* (Return in dollars for every $1 in cost)
Lynch (2021)	Early childhood intervention	**Costs:** Enrollment of participants in the preschool program **Benefits:** Government budget savings (higher tax revenue, lower public expenditures on public programs), increased wages and earnings for children in their adult years, reduced costs of healthcare and criminal activity, few incidences of child abuse and neglect, families more likely to invest in personal health and education, reduced economic inequity	**Over 10 years:** $1.01 **Over 35 years:** $4.93
Masse & Barnett (2010)	Early childhood intervention	**Benefits:** Increase in maternal earnings, decreased cost of K-12 education, reduced likelihood of smoking/health needs, decrease in consumption of public benefits, increase in higher education costs **Costs:** Program costs	**Lifetime ROI:** $2.87 (3% discount) $1.77 (5% discount) $1.21 (7% discount)

Study	Study area	Benefits/cost savings evaluated	ROI estimate* (Return in dollars for every $1 in cost)
ICF – Naugler et al. (2021)	Parenting education and support intervention	**Costs:** Forgone benefits (AmeriCorps members forgo other wages they could have received from other employment, funders forgo returns from other investments), program costs **Benefits:** Increased lifetime earnings of children participants; AmeriCorps members' receipt of living allowances, education awards, and increased earnings; increased tax revenue because of increased earned income; reduced need for public assistance, corrections, and social insurance	**Total benefits per federal dollar ROI:** $1.10 (short-term) $3.13 (medium-term) $4.58 (long-term) **Total benefits per funder dollar ROI:** $0.50 (short-term) $1.44 (medium-term) $2.11 (long-term)
Borden et al. (2021)	Child and family development	**Costs:**1-year investment by Children, Youth, and Families At-Risk program **Benefits:** Greater earned income (education), reduced healthcare costs (health), improved social behavior (social behavior)	**Over 1 year:** $2.04 (low effect) $4.08 (medium effect) $6.11 (high effect)
Dodge et al. (2021)	Child abuse and neglect	**Benefits:** Lifetime reduced medical emergency care costs, reduction in child abuse and neglect **Costs:** Costs associated with home visits	**Medicaid only ROI:** $0.89 **Medicaid and primiparous mother ROI:** $0.41 **Any clinical risk ROI:** $1.12

*Where studies did not report ROIs, they were calculated based on the net benefits and net costs, where available.

ROI Methodology

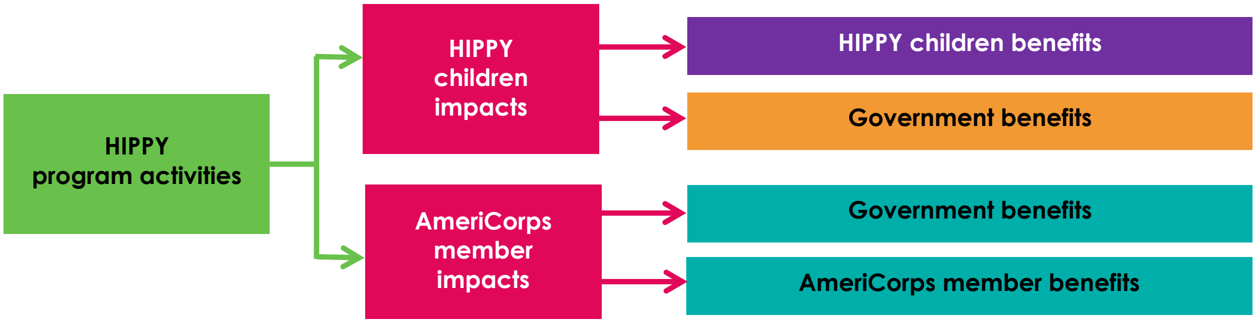
The methodology for estimating the ROI for Parent Possible's HIPPY program consisted of the following components:

1. **Measuring and monetizing program benefits.** This included using program data provided by Parent Possible, publicly available data, and other third-party sources to determine the benefits to HIPPY children, AmeriCorps members, and the government.
2. **Estimating forgone benefits (opportunity costs).** This ROI analysis estimated two types of forgone benefits. The first was the professional opportunity cost to HIPPY AmeriCorps members for their period of national service, during which they could have earned more pay by doing other work. The second was the investment opportunity cost for HIPPY program funding that could have been used for other purposes.
3. **Assessing program costs.** Parent Possible provided program costs for the program year of September 2018 through August 2019. Parent Possible costs for the 2018–2019 program year included operating costs, AmeriCorps member expenses, and other indirect costs. AmeriCorps member expenses included the living allowance amounts received during service and the expected education awards received post-service.
4. **Calculating the ROI.** The ROI analysis includes three ROI calculations, each assessed under three scenarios representing different assumptions about the persistence of program outcomes:
   - Total benefits per federal dollar
   - Total benefits per funder dollar[4]
   - 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 Parent Possible's HIPPY program. Figure 1 shows how Parent Possible's HIPPY program activities can result in benefits to HIPPY children; HIPPY AmeriCorps members; and federal, state, and local governments.

[4] The different funder groups whose investment is in this calculation include the federal government (i.e., AmeriCorps) and match funding from state and local governments.

Figure 1. Benefits Among Stakeholder Groups From Parent Possible



Available data establish that HIPPY AmeriCorps members enjoy earnings impacts as a result of serving with Parent Possible. 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:[5]

- **Short-term.** This scenario assumes short-term earnings impacts. The assumption is that earnings impacts are limited to a single year after program exit. This scenario also assumes no lifetime benefits are realized.
- **Medium-term.** This scenario assumes a longer duration of earnings impacts. The assumption is that earnings impacts last 15 years. A 3 percent discount rate is applied each year to represent net present value in 2022 dollars.[6] This scenario also assumes only half of the net present value of lifetime benefits is realized.
- **Long-term.** This scenario assumes sustained earnings impacts throughout HIPPY 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 2022 dollars. This scenario also assumes the entire net present value of lifetime benefits is realized.

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

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

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

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

This analysis monetized an array of benefits and included Parent Possible's HIPPY program costs and expected opportunity costs—all in 2022 dollars—to assess the ROI of Parent Possible's HIPPY program. Additional details on the methodology employed and the calculations used for this analysis are in Appendix B. Data on costs and benefits are from the 2018–2019 school year, prior to any disruptions from the COVID-19 pandemic that began in 2020.

Outcomes of Parent Possible's HIPPY program result in monetizable benefits to the participants of Parent Possible's HIPPY program; HIPPY AmeriCorps members; and federal, state, and local governments. Table 2 summarizes these benefits and data sources by stakeholder group.

Table 3. Benefits Realized From Parent Possible's HIPPY Program by Stakeholder Group

Stakeholder group	Benefits
HIPPY participants	• Additional lifetime earnings from increased educational attainment as a result of educational support services
HIPPY AmeriCorps members	• Additional earnings from reduced unemployment • Additional lifetime earnings from increased educational attainment as a result of education awards • Post-tax living allowances and education awards
Federal, state, and local governments	• Tax revenue from increased earnings by HIPPY AmeriCorps members post-program and sales tax revenue from the induced increased economic activity • Reduced educational spending due to reduced grade repetition of HIPPY children • Tax revenue from living allowances and education awards • Reduced lifetime spending on corrections, public assistance, and social insurance from increased educational attainment by HIPPY AmeriCorps members as a result of education awards • Reduced lifetime spending on corrections, public assistance, and social insurance from increased educational attainment by HIPPY participants as a result of education awards • Lifetime tax revenue from increased educational attainment by HIPPY AmeriCorps members as a result of program service • Lifetime tax revenue from increased educational attainment by HIPPY participants as a result of program participation

Benefits to HIPPY Children

Additional Lifetime Earnings From Increased Educational Attainment as a Result of Program Participation (Benefit to HIPPY Children)

The analysis used the following finding from Brown and Lee (2014) to estimate how many additional HIPPY children were not required to repeat 9th grade: 24.3% of HIPPY children were retained in 9th grade compared to 77.1% of non-HIPPY participants, significant at the .05 level.

The analysis then used Larsen and Valant (2022) to estimate the impact of being held back in 9th grade on high school graduation. That study found being retained had a 19-percentage-point decrease in high school graduation, significant at the .01 level.

Finally, the analysis used the number of additional high school graduates to quantify the additional earnings they obtain due to this increased educational attainment. The analysis used the 2019 Current Population Survey to estimate median income by race, gender, and education (U.S. Census Bureau, 2019-c) and multiplied the annual difference in earnings estimate by the number of additional high school graduates by demographic group to calculate the total additional earnings due to the HIPPY program.

While the literature review identified health and child well-being benefits to preschool and at-home visitation models, HIPPY is distinct from those programs in its focus on educational outcomes rather than avoidance of child neglect. Accordingly, the ROI analysis focused on benefits to HIPPY children that result from improved educational outcomes, rather than health outcomes.

Brown and Lee noted that their study did not have implementation information about parents' fidelity to the HIPPY model in their use of HIPPY activities with their children. Nor were they able to disentangle other factors, such as daycare, other parent educational programs, or extracurricular activities. Given these limitations, the difference in student retention between HIPPY participants and non-participants may not all be attributable to the HIPPY program.

Benefits to AmeriCorps Members

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

Some member-specific benefits realized due to AmeriCorps members serving in Parent Possible's HIPPY program include the post-tax living allowances AmeriCorps State and National members are allotted during their national service and the post-tax education awards they receive after service completion. All are considered taxable income and thus result in increased government revenue.[7] The post-tax living allowance and the

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

education award amount that was used to repay student loans were included in the ROI analysis as direct one-time benefits to HIPPY AmeriCorps members.

Additional Earnings From Reduced Unemployment (Benefit to HIPPY 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.[8] Freidman et al. (2016) found that unemployment among AmeriCorps members 6 months after their period of national service was 5 percentage points lower compared to 6 months before service.[9] To monetize this decrease in unemployment, the analysis first determined the demographic distribution of HIPPY AmeriCorps State and National members who served during the 2018–2019 program year in terms of race/ethnicity, gender, age, and education level pre-service using data provided by Parent Possible. The analysis then proceeded to:

1. Estimate HIPPY AmeriCorps members' per-person average annual earnings (weighted by the above demographics) using data from the Current Population Survey's Annual Social and Economic (ASEC) Supplement for 2019 (U.S. Census Bureau, 2019-b)
2. Multiply the 5-percentage-point reduction in unemployment from Freidman et al. (2016) by the number of HIPPY AmeriCorps members who served during the 2018–2019 program year to estimate the number of *additional* HIPPY AmeriCorps members employed post-service
3. Multiply the demographically weighted per-person average annual earnings by the number of additional HIPPY AmeriCorps members employed to estimate the total increased earnings attributable to national service

The earnings metrics for HIPPY AmeriCorps members were applied and discounted based on the short-term, medium-term, and long-term scenarios to represent net present 2022 dollars. The post-tax HIPPY AmeriCorps members' projected earnings represent the additional income earned by AmeriCorps members attributable to serving with Parent Possible.

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

Another benefit derived from national service is the higher educational attainment of AmeriCorps members. AmeriCorps members in general—as documented in Friedman et al. (2016)—can use their education awards to pay for additional postsecondary educational attainment or to repay student loans.

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[8] Relevant studies include Markovitz et al., 2008; Spera et al., 2013; Friedman et al., 2016; Zeidenberg et al., 2016.

[9] See page 56 of Friedman et al. (2016).

Friedman et al. (2016) reported that 46 percent of AmeriCorps State and National members used their education award to pursue additional postsecondary education while 33 percent used it to repay student loans.[10]

This analysis estimated the expected increase in lifetime earnings of HIPPY AmeriCorps members attributable to the use of education awards to pay for additional postsecondary schooling. Based on the findings from Friedman et al. (2016), this ROI analysis estimated the amount in post-tax education awards that HIPPY AmeriCorps members used to pay for additional educational attainment. The analysis then estimated the value of the additional educational attainment attributable to the education awards in terms of lifetime earnings using data from Trostel (2015). These estimated additional post-tax lifetime earnings were included as a benefit to HIPPY AmeriCorps members.

Benefits to Government

Benefits to government include tax revenue generation and reduced spending on public assistance, social insurance, and corrections, resulting from increased earnings and educational attainment from HIPPY AmeriCorps members and HIPPY children.

Benefits to Government From Increased Earnings due to Educational Attainment by HIPPY Children

Federal and state governments benefit from increased educational attainment by HIPPY children. Those benefits include:

- **Reduced lifetime spending on corrections, public assistance, and social insurance from increased educational attainment as a result of education awards.** Educational attainment is associated with less dependence on government assistance programs and lower incarceration rates (Blagg and Blom, 2018; Harlow, 2003). Federal and state governments spend less because HIPPY children increase their secondary educational attainment. To monetize these benefits, the analysis paired the expected increase in educational attainment of HIPPY children with the expected difference in per-person lifetime government cost savings from Medicaid, SNAP, unemployment insurance, workers' compensation, and corrections for individuals with different levels of educational attainment. The latter values were provided by Levin (2007).
- **Tax revenue from increased educational attainment as a result of program participation.** The analysis estimated the lifetime tax revenue generated from increased educational attainment of HIPPY children due to program participation. Here, the estimated increase in earnings was multiplied by relevant tax rates. This tax revenue includes federal income, state income, property, Social Security, Medicare, and sales taxes.

[10] Friedman et al. (2016). op. cit. Exhibit VIII-6.

Benefits to Government From Reduced Grade Repetition by HIPPY Children

Federal and state governments benefit from reduced grade repetition of HIPPY children. The analysis estimated savings to government based on the reduced repetition of 9th grade found by Brown and Lee (2014). Here, the estimated per-pupil cost of students in Colorado was multiplied by the estimated number of children who were not later retained in 9th grade as a result of HIPPY participation. This is a conservative estimate of savings to government, given that HIPPY may reduce grade repetition in other grade levels, as well.

Benefits to Government From Increased Earnings by HIPPY AmeriCorps Members

Federal, state, and local governments benefit from increased earnings by HIPPY AmeriCorps members due to lower unemployment as a result of service. Those benefits include:

- **Income tax revenue from increased earnings by HIPPY AmeriCorps members post-service.** Federal income taxes, state income taxes, Medicare taxes, and Social Security taxes were estimated for the additional pre-tax earnings of HIPPY AmeriCorps members based on 2019 rates. For both federal and state income taxes, the analysis estimated proportional tax rates representing the share of earnings paid in taxes.

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

- **Sales tax revenue from the increased economic activity that results from increased earnings by HIPPY AmeriCorps members post-service.** To estimate the additional sales tax revenue generated due to the additional post-tax earnings of HIPPY AmeriCorps members, the combined state and average local sales tax rate for the United States—weighted by states' populations—was calculated. This analysis applied that rate to the estimated taxable expenditures of HIPPY AmeriCorps members based on their post-service pre-tax earnings using Consumer Expenditure Survey data (U.S. Bureau of Labor Statistics, 2019-c).[11] The resulting product was then applied to the share of post-tax earnings attributable

[11] To calculate the estimated taxable expenditures, Consumer Expenditure Survey (CE) Table 1203 was used from the U.S. Bureau of Labor Statistics (2019-c). This table lists the annual expenditure means by pre-tax income tax brackets. Thus, the pre-tax earnings of HIPPY AmeriCorps members were used instead of their post-tax earnings to calculate this metric. Please visit this site for more details: https://www.bls.gov/cex/tables/calendar-year/mean-item-share-average-standard-error.htm#cu-income.

to serving with Parent Possible to estimate state and local government sales tax revenue.

Benefits to Government From Increased Earnings due to Educational Attainment by HIPPY AmeriCorps Members

Federal and state governments benefit from increased postsecondary educational attainment by HIPPY AmeriCorps members. Those benefits include:

- **Tax revenue from education awards.** Education awards provided to HIPPY AmeriCorps members upon service completion are subject to taxes, resulting in additional government revenue.[12] This ROI analysis applied federal income, state income, Social Security, and Medicare tax rates to the expected total amount of education awards to be given to HIPPY AmeriCorps members to estimate these additional taxes. Both estimated proportional federal and state income tax rates were used. Sales taxes were not estimated for education awards because they cannot be used for consumer purchases.
- **Reduced lifetime spending on corrections, public assistance, and social insurance from increased educational attainment as a result of education awards.** Higher educational attainment is associated with less dependence on government assistance programs and lower incarceration rates (Blagg and Blom, 2018; Harlow, 2003). Because of HIPPY AmeriCorps members' increased postsecondary educational attainment due to the use of the education award, federal and state governments spend less. For the monetization of these benefits, the analysis paired the expected increase in postsecondary educational attainment of HIPPY AmeriCorps members with the expected difference in per-person lifetime government cost savings from Medicaid, SNAP, unemployment insurance, workers' compensation, and corrections for individuals with different levels of educational attainment. The latter values were provided by Trostel (2015).
- **Lifetime tax revenue from increased educational attainment as a result of education awards.** Another benefit related to HIPPY AmeriCorps members captured in this ROI study is the lifetime tax revenue generated from members' higher postsecondary educational attainment due to the use of the education award. Here, the estimated increase in HIPPY AmeriCorps members' postsecondary educational attainment was paired with the expected difference in per-person lifetime taxes for individuals with different levels of education as provided by Trostel (2015). This lifetime tax revenue includes federal income, state income, property, Social Security, Medicare, and sales taxes derived from use of the education award.

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

Benefits to Government From Living Allowances Received by HIPPY AmeriCorps Members

The living allowance provided to HIPPY AmeriCorps members during their service term is considered taxable income. This analysis applied a proportional federal income tax rate as well as Medicare and Social Security tax rates to the pre-tax living allowance amount received by HIPPY AmeriCorps members for the 2018 to 2019 program year. The analysis also applied a sales tax rate to the estimated taxable expenditures of HIPPY AmeriCorps members based on their post-tax living allowance amount to estimate additional state and local government revenue.

Forgone Benefits (Opportunity Costs)

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

Professional Opportunity Cost to HIPPY AmeriCorps Members

The first forgone benefit was the professional opportunity cost to HIPPY AmeriCorps members for their period of national service, during which they could otherwise be working and earning higher pay. To calculate the opportunity cost, this analysis estimated what HIPPY AmeriCorps members would have earned if they did *not* serve with Parent Possible. Specifically, this analysis estimated the weighted average annual earnings of this group as well as their weighted unemployment rate using ASEC data and the demographic distribution of HIPPY AmeriCorps members for the 2018–2019 program year. The demographics included were gender, age, race/ethnicity, and the highest level of education pre-service. The weighted average annual earnings represent the expected earnings of the HIPPY AmeriCorps members if they were employed but *not* serving with Parent Possible. The weighted unemployment rate represents how many of the HIPPY AmeriCorps members would have been unemployed if they did *not* serve with Parent Possible. These weighted metrics were first used to estimate the portion of HIPPY AmeriCorps members who would have been employed and then to calculate the aggregate earnings those employed individuals would have made without serving with Parent Possible. Namely, they are used to calculate the aggregate post-tax earnings this population would forgo due to serving with Parent Possible for 1 year.

Some of the forgone earnings would have been paid in the form of taxes. To appropriately allocate opportunity costs between HIPPY AmeriCorps members and government, the analysis estimated the reduced tax revenue for federal income, state income, Social Security, and Medicare taxes. The analysis also estimated the reduction in sales tax from reduced consumption. Combined, these taxes represent what the various levels of government are forgoing in tax revenue when these individuals decide to serve with Parent Possible instead of working for higher pay. The summation of all forgone taxes and the forgone post-tax earnings of HIPPY AmeriCorps members is called the *total professional opportunity cost*.

It is important to note that in the *federal government benefits per federal dollar* ROI calculation, only federal government (not total) benefits are included. Given this, only federal components of the professional opportunity cost were subtracted from all federal government benefits (e.g., tax revenue and cost savings) realized as a result of Parent Possible in this ROI calculation. The parts of the professional opportunity cost removed from these total federal government benefits included the federal income, Social Security, and Medicare taxes forgone due to HIPPY AmeriCorps members forgoing earnings during their service year. The summation of these forgone federal taxes is called the *federal professional opportunity cost*.

Investment Opportunity Cost to Funders

The second opportunity cost used in this ROI analysis is an investment opportunity cost. It estimates the expected forgone return if all funds used to support Parent Possible's HIPPY program during the 2018–2019 program year were invested in U.S. Treasury bonds instead. To calculate this, the analysis matched 2019 real interest rates provided by the Office of Management and Budget (2020) to each of the scenarios leveraged in this ROI analysis: short-term, medium-term, and long-term. The rates of return for U.S. Treasury bonds provide a market-based estimate of return for low-risk investments.

The real interest rate for the 3-year maturity was used for the short-term scenario, the average between the 10-year and 20-year maturity rates was used as the rate for the medium-term scenario, and the 30-year maturity rate was used for the long-term scenario. These real interest rates were 1.3 percent, 1.45 percent, and 1.5 percent, respectively (Office of Management and Budget, 2020). Also, the number of time periods elapsed on these bonds was equal to the number of years the short-term, medium-term, and long-term scenarios assume HIPPY AmeriCorps members' employment and earnings gains are sustained: 1 year, 15 years, and 30 years, respectively. These bonds compound biannually, according to the U.S. Department of the Treasury (2019). The forgone accrued interest was calculated for each of the three scenarios if the funding amount used to support Parent Possible's HIPPY program was instead invested.

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

Program Costs

The costs for Parent Possible's HIPPY program, used for this ROI analysis, include federal and required match funding and any other funding used to support program operations. The match and any additional funding can come from state/local governments and private entities. The program costs are specific to funding the activities and positions of HIPPY AmeriCorps members whose outcomes are measured in this analysis.

ROI Study Limitations

Study limitations include the following:

- While the Brown and Lee (2014) study identified a control group that matched HIPPY participants on measurable variables, the control and treatment groups may differ on unmeasured traits, such as parental motivation. Additionally, Brown and Lee were unable to control for other factors, such as preschool experience, other parental education programs, or extracurricular activities. Their study also did not have implementation information about parents' fidelity to the HIPPY model in their use of HIPPY activities with their children.
- The Brown and Lee study was conducted on a HIPPY program, but not Parent Possible's HIPPY program. HIPPY is implemented with the same curriculum across sites so the results are likely relevant and similar, but other factors, such as staff quality, may differ between the programs. This means the impact of Parent Possible's HIPPY program may be greater or less than the impact identified in Brown and Lee.
- This ROI analysis does not capture other benefits beyond academic achievement that are part of Parent Possible's program model. These include improvement in students' socio-emotional skill development, chronic absenteeism, disciplinary incidents, positive relationship-building, extracurricular involvement, and civic engagement. Related literature does not provide a method for monetizing impacts related to these additional outcomes.
- Data on costs and benefits are from the 2018–2019 school year, prior to any disruptions from the COVID-19 pandemic that began in 2020. The analysis does not attempt to model the effect of those disruptions on ROI due to lack of data. The ROI estimates are relevant to more normal conditions.

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

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

Program Benefits

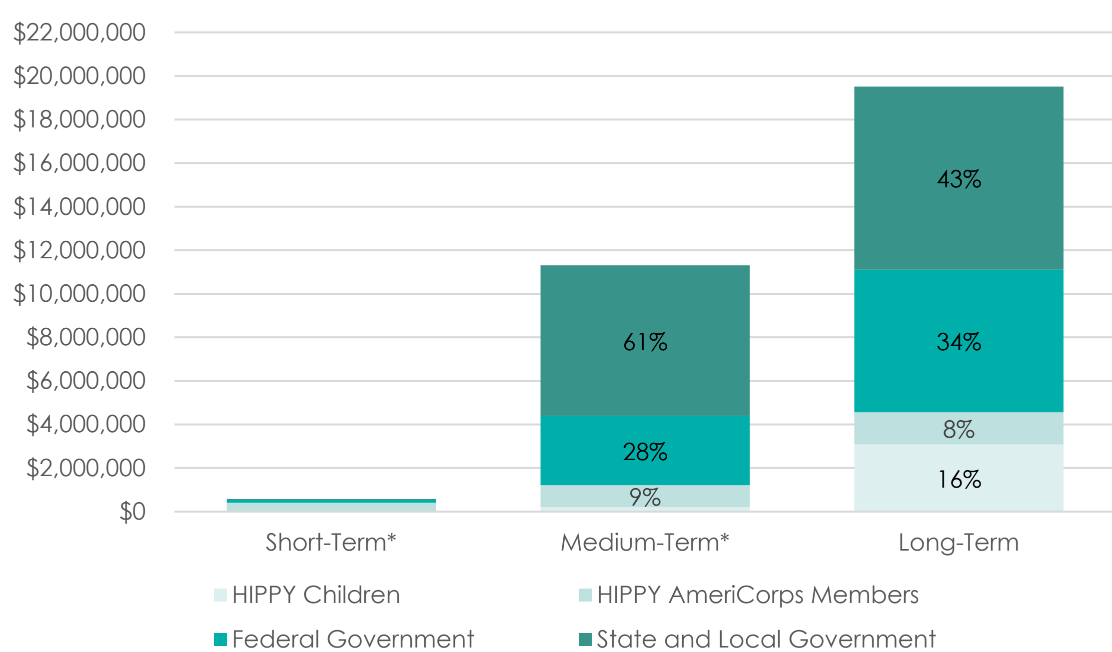
Table 4 shows the estimates of monetized benefits of Parent Possible's HIPPY program by stakeholder group for each of the three scenarios. Figure 2 shows the estimates broken out into percentages.

Table 4. Program Benefits by Recipient

Recipient	Benefits by scenario (2022$)		
	Short-term	Medium-term	Long-term
HIPPY children	$0	$195,793	$3,081,486
HIPPY AmeriCorps members	$413,371	$1,016,409	$1,477,054
Federal government	$117,956	$3,176,313	$6,549,462
State and local government	$48,438	$6,912,757	$8,403,587
Total	**$579,765**	**$11,301,271**	**$19,511,588**

Note: Numbers may not sum due to rounding.

Figure 2. Program Benefits by Stakeholder Group



*Short-term percentages: HIPPY children, 0% ; HIPPY AmeriCorps members, 71%; federal government, 20%; state and local government, 8%. The HIPPY children percentage in the medium-term in 2%.
Note: Numbers may not sum due to rounding.

Forgone Benefits (Opportunity Costs)

Table 5 shows the breakdown of the forgone benefits from the professional opportunity cost to HIPPY AmeriCorps members and government in net present 2022 dollars. It provides the amount of post-tax earnings that members forgo—and the associated taxes forgone—to serve with Parent Possible's HIPPY program. This is called the *total professional opportunity cost*. For the *federal government benefits per federal dollar* ROI calculation, only the forgone federal income, Social Security, and Medicare taxes were subtracted from the total federal benefits that are realized due to Parent Possible's HIPPY program. The sum of forgone federal taxes is called the *federal professional opportunity cost*.

Table 5. Forgone Benefits From Professional Opportunity Cost

Forgone category	Professional opportunity cost amount across all scenarios (2022$)
Post-tax earnings	$174,300
Federal income taxes	$25,557
State income taxes	$7,456
Social Security and Medicare taxes	$17,500
Sales taxes	$3,945
Total	**$228,759**

Table 6 lists the forgone benefits from the investment opportunity cost incurred by scenario and for when:

a) Total Parent Possible program funds for the program year are invested in U.S. Treasury bonds. This version was used in the *total benefits per federal dollar* and *total benefits per funder dollar* ROI calculations.

b) Only federal Parent Possible program funds (both program and education award funding) are invested in these bonds. This version was used in the *federal government benefits per federal dollar* ROI calculation.

Table 6 column headers list the 2019 real interest rates for U.S. Treasury bonds and the number of years elapsed (with two payments a year). These values were used to calculate the forgone accrued interest value for each scenario.

Table 6. Investment Opportunity Cost by Scenario and Funding Stream

Funding stream	Forgone accrued interest by scenario (2022$)		
	Short-term (1.30% interest rate and 1 year elapsed)	Medium-term (1.45% interest rate and 15 years elapsed)	Long-term (1.50% interest rate and 30 years elapsed)
Total Parent Possible program funding	$38,097	$612,312	$1,202,197
Federal Parent Possible program funding only	$19,982	$321,165	$630,568

Program Costs

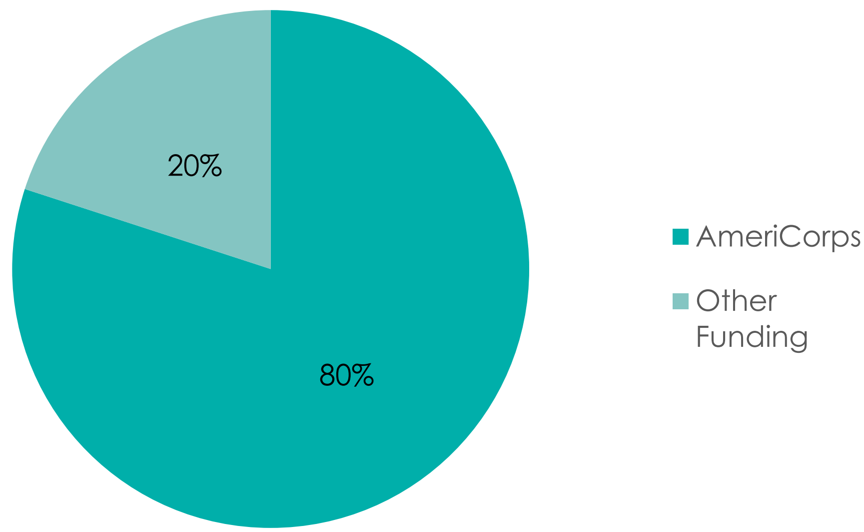
Table 7 shows the cost of Parent Possible's HIPPY program for the 2018–2019 program year by funding source, and the percentage from each source is shown in Figure 3. Total program cost amounted to $2,670,146, 20 percent of which is funded by AmeriCorps and 80 percent of which is funded by other entities, such as state and local government and private funders.

The federal funds include the AmeriCorps State and National grant and the education award amounts granted to HIPPY AmeriCorps members once they completed their service term. Funds provided by state/local governments and private funds represent the match funding and other funding received by Parent Possible's HIPPY program to support program activities for the program year. This match and other funding provide Parent Possible's HIPPY program with the resources to offer more services and support to children than would otherwise be available only under the AmeriCorps federal funds. That translates into increased aggregate benefits realized across stakeholder groups.

Table 7. Program Cost by Funding Source for Parent Possible's HIPPY Program

Funder	Funding provided for the program year
AmeriCorps	$524,001
Other funding (other federal, state/local government, and private)	$2,146,146
Total	**$2,670,146**

Figure 3. Program Cost by Funding Source



ROI Results

This analysis developed three ROI estimates using the three scenarios (short-term, medium-term, and long-term). As noted above, the ROI calculations compare the net benefits of Parent Possible's HIPPY program with the program cost to calculate the ROI.

Table 8 shows the program gross benefits, forgone benefits, net benefits, and cost of Parent Possible's HIPPY program, and each of the components that are used to calculate the three ROIs.

Table 8. Program Benefits, Net Benefits, and Program Costs by ROI Scenario

Benefits and costs	ROI scenario (2022$)		
	Short-term	Medium-term	Long-term
Total program gross benefits	**$579,765**	**$11,301,271**	**$19,511,588**
HIPPY participants	$0	$195,793	$3,081,486
Member benefits	$413,371	$1,016,409	$1,477,054
Federal government benefits	$117,956	$3,176,313	$6,549,462
State and local governments/other funder benefits	$48,438	$6,912,757	$8,403,587
Total forgone benefits (opportunity cost)	**$266,856**	**$841,070**	**$1,430,956**
Forgone benefits to members (forgone earnings post-taxes)	$174,300	$174,300	$174,300
Forgone tax revenue from members' earnings	$54,459	$54,459	$54,459

Benefits and costs	ROI scenario (2022$)		
	Short-term	Medium-term	Long-term
Forgone tax revenue federal government	$43,057	$43,057	$43,057
Forgone tax revenue state/local governments	$11,402	$11,402	$11,402
Forgone benefits from total investment (all funders)	$38,097	$612,312	$1,202,197
Forgone benefits from federal government investment	$19,982	$321,165	$630,568
Forgone benefits from state/local government investment	$18,115	$291,146	$571,629
Total program net benefits (total program gross benefits – total forgone benefits)	**$312,909**	**$10,460,201**	**$18,080,632**
Net benefits HIPPY participants	$0	$195,793	$3,081,486
Net benefits members (member benefits – forgone benefits members)	$239,071	$842,109	$1,302,754
Net benefits federal government (federal government benefits – forgone tax revenue to federal government – forgone benefits from federal government investment)	$54,917	$2,812,090	$5,875,837
Net benefits state/local governments and other funders (state/local government benefits – forgone tax revenue to state/local governments – forgone benefits from state/local governments and other funder investment)	$18,921	$6,610,209	$7,820,556
Program cost	**$2,670,146**	**$2,670,146**	**$2,670,146**
Federal government cost	$1,467,015	$1,467,015	$1,467,015
Non-federal government cost	$1,203,131	$1,203,131	$1,203,131
ROI for total benefits per federal dollar (Total program net benefits / federal government cost)	**$0.21**	**$7.13**	**$12.32**
ROI for total benefits per funder dollar (Total program net benefits / program cost)	**$0.12**	**$3.92**	**$6.77**
Federal government benefits per federal dollar (net benefits federal government / federal government cost)	**$0.04**	**$1.92**	**$4.01**

Table 9 summarizes the ROI results for Parent Possible's HIPPY program across the short-term, medium-term, and long-term scenarios. Three different ROI results are calculated for each scenario. Specifically, these ratios take the form of the sum of monetized benefits over the sum of applicable program costs. The ROIs expressed as cost–benefit ratios in this study can be interpreted as the amount of dollars returned for every $1 of investment (or program cost).[13] See Appendix B for the formulas used to calculate each ROI calculation.

Table 9. ROI Results for Parent Possible's HIPPY Program

	ROI scenario		
ROI calculation	**Short-term**	**Medium-term**	**Long-term**
Total benefits per federal dollar	$0.21	$7.13	$12.32
Total benefits per funder dollar	$0.12	$3.92	$6.77
Federal government benefits per federal dollar	$0.04	$1.92	$4.01

The program produces strong returns for the medium- and long-term scenarios for all ROI calculations. The magnitude and direction of the ROI results are driven by several factors:

- **Income gains by HIPPY children due to higher educational attainment.** HIPPY participants enjoy increased earnings during their working years attributable to their increased educational attainment.
- **Additional earnings by AmeriCorps members.** Serving in AmeriCorps leads to increased wages and reduced unemployment post-national service through skill acquisition, as well as increased educational attainment post-service.
- **Reduced lifetime spending on corrections, public assistance, and social insurance**. Because of the increase in secondary and postsecondary educational attainment for AmeriCorps members and HIPPY children, federal and state governments spend less on these items.

In the short-term scenario—which only includes benefits for 1 year post-program—the ROI results indicate that there is a short-term loss under all three ROI calculations. An ROI that is below $1 in the first year post-program is common in programs where there is an initial one-time investment made and benefits accrue in the following years. This is because it can require several years of benefits to recoup the initial investment and generate positive returns.

Government funding serves as a catalyst for private funding of evidence-based social services programs. For the ROI calculations of 1) *total benefits per federal dollar* and 2) *total benefits per funder dollar*, AmeriCorps's requirement of match funding also contributed to the magnitude of outcomes. Federal government funding of Parent

[13] ROIs can be expressed in percentages or as ratios, such as in this study. Although not shown as a ratio in the results, the ROIs in this study show the amount of return for every $1 invested.

Possible's HIPPY program serves as a catalyst for other funding, specifically that from state and local governments. This additional funding—amounting to about $777,066 for Parent Possible's HIPPY program for the 2018 to 2019 program year—allowed Parent Possible's HIPPY program to serve more parents and families than otherwise would have been served under the federal funding alone. Though match funding does not impact the ROI—because ROI is a per-unit metric—it increases investment in HIPPY, thereby increasing the program's total impact.

Recommendations for Further Research

Future ROI studies for national and community service programs, such as Parent Possible's HIPPY program, can be strengthened in several ways.

Recommendation 1: Determine the persistence of short- and long-term impacts for HIPPY children and AmeriCorps members. The persistence of impacts, such as earnings or employment, is often not measured in evaluations because it requires long-term tracking. Although a scenario-based approach that accounts for variations in the persistence of impacts can be used, as was completed in this ROI analysis, rigorous research on the long-term impact of programming will enable AmeriCorps to determine a single value for ROI calculations and avoid relying on the scenario-based approach. For example, Friedman et al. (2016) reported the unemployment status of AmeriCorps member alumni 6 months before service, 6 months after service, and during the summer of 2016. The authors indicate that data for the latter timepoint was collected anywhere from 3 to 11 years after service completion, depending on the AmeriCorps member alumni cohort (i.e., 2005, 2010, or 2013). The varying data collection periods for the cohorts makes it difficult to measure the duration of benefits. Thus, instead of collecting outcome measures at a time that varies by AmeriCorps member or HIPPY children, studies should track outcomes of interest at the same intervals, multiple times after program or service completion, to provide greater insight into the duration and consistency of benefits.

Recommendation 2: Document outcomes using third-party data sources. Using third-party data, along with or in place of self-reported data, can also improve the accuracy of program outcome measurements. While self-reported data are easier to obtain—especially via the use of survey instruments—they have several disadvantages. Some answers may be exaggerated, respondents may not answer honestly, and response biases could affect results. AmeriCorps programs should—where possible—leverage data from third-party sources either to provide data for their program evaluation or to corroborate findings from self-reported data. For example, if employment and earnings outcomes are of interest, unemployment insurance data—which are submitted by employers—could be used to verify members' wages or employment status post-service. Additionally, data from the National Student Clearinghouse (NSC) could be used to verify what portion of HIPPY AmeriCorps members pursued higher education and which degrees were completed post-program with the help of the education award. Relevant degree or employment outcomes data from third-party data sources (like NSC) would make more precise ROI estimates possible.

Recommendation 3: Quantify ripple effects. Earnings and educational impacts for AmeriCorps members likely have positive benefits for those individuals' families and surrounding communities. Rigorous research on those potential ripple effects would enable AmeriCorps to capture a broader array of benefits of this and other programs, which would be expected to result in an increased ROI.

Recommendation 4: **Document other program outcomes**. HIPPY has several studies on the educational outcomes for HIPPY children, but the program likely has positive benefits in other aspects of their lives. Health and social-emotional benefits were identified in other ROI studies on similar programs. Additionally, the program may benefit the parents of HIPPY children in their employment status, health, and education. Studies on those impacts would result in a more comprehensive ROI estimate.

Conclusion

The program produces strong returns for the medium-term and long-term scenarios as indicated by the results of all three ROI calculations for these two scenarios. In the short-term scenario—which only includes benefits for 1 year post-program—the ROI results indicate that there is a short-term loss on funding invested in the program.

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

In Table 10, the three columns on the right indicate by an "X" if the program benefits, forgone benefits (opportunity cost), or program cost is included in the numerator or denominator of an ROI calculation.

Table 10. Benefits and Costs Included in the HIPPY ROI Calculation

Benefit or cost			Total benefits per federal dollar	Total benefits per funder dollar	Federal government benefits per federal dollar
Benefits	**Stakeholder group**	**Data sources**	**X indicates inclusion in the ROI numerator**		
Increased lifetime earnings of HIPPY children due to their increased educational attainment	HIPPY children	• Parent Possible • Brown & Lee (2014) • Larsen & Valant (2022) • Levin (2007) • U.S. Bureau of Labor Statistics (2019-a)	X	X	
Increased lifetime income tax revenue due to increased educational attainment of HIPPY children	Federal government	• Parent Possible • Brown & Lee (2014) • Larsen & Valant (2022) • Levin (2007) • U.S. Bureau of Labor Statistics (2019-a)	X	X	X

Benefit or cost			Total benefits per federal dollar	Total benefits per funder dollar	Federal government benefits per federal dollar
Benefits	**Stakeholder group**	**Data sources**	**X indicates inclusion in the ROI numerator**		
Increased lifetime Social Security tax revenue due to increased educational attainment of HIPPY children	Federal government	• Parent Possible • Brown & Lee (2014) • Larsen & Valant (2022) • Levin (2007) • U.S. Bureau of Labor Statistics (2019-a)	X	X	X
Increased lifetime sales tax revenue due to increased educational attainment of HIPPY children	State and local governments	• Parent Possible • Brown & Lee (2014) • Larsen & Valant (2022) • Levin (2007) • U.S. Bureau of Labor Statistics (2019-a)	X	X	
Savings in lifetime public assistance, corrections, and social insurance costs due to increased educational attainment of HIPPY children	Federal government	• Parent Possible • Brown & Lee (2014) • Larsen & Valant (2022) • Levin (2007) • U.S. Bureau of Labor Statistics (2019-a)	X	X	X

Benefit or cost			Total benefits per federal dollar	Total benefits per funder dollar	Federal government benefits per federal dollar
Benefits	**Stakeholder group**	**Data sources**	**X indicates inclusion in the ROI numerator**		
Savings in educational spending due to reduced grade repetition by HIPPY children	Federal and state/local governments	• Parent Possible • Brown & Lee (2014) • NCES (2020)	X	X	X
Increased earnings of national service members due to increased employment and education of AmeriCorps members	AmeriCorps members	• Parent Possible • Friedman et al. (2016) • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-a) • U.S. Bureau of Labor Statistics (2019-b)	X	X	
Increased income tax revenue due to increased earnings of AmeriCorps members	Federal and state governments	• Friedman et al. (2016) • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-a) • Tax rate data on Bankrate.com and Loughead (Tax Foundation, 2020)	X	X	X

Benefit or cost			Total benefits per federal dollar	Total benefits per funder dollar	Federal government benefits per federal dollar
Benefits	**Stakeholder group**	**Data sources**	**X indicates inclusion in the ROI numerator**		
Increased Social Security and Medicare tax revenue due to increased earnings of AmeriCorps members	Federal government	• Friedman et al. (2016) • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-a) • Social Security Administration (2020)	X	X	X
Increased sales tax revenue due to increased earnings of AmeriCorps members	State and local governments	• Friedman et al. (2016) • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-a) • U.S. Bureau of Labor Statistics (2021) • Loughead (Tax Foundation, 2020)	X	X	
AmeriCorps member living allowances and education awards	AmeriCorps members	• Parent Possible	X	X	

Benefit or cost			Total benefits per federal dollar	Total benefits per funder dollar	Federal government benefits per federal dollar
Benefits	**Stakeholder group**	**Data sources**	**X indicates inclusion in the ROI numerator**		
Reduced spending on lifetime public assistance, corrections, and social insurance due to increased educational attainment of AmeriCorps members	Federal, state, and local governments	• Trostel (2015) • Zeidenberg et al. (2016) • U.S. Census Bureau (2019-a)	X	X	X
Forgone benefits (opportunity costs)	**Payer**	**Data Source**	**X indicates inclusion in the ROI denominator**		
Opportunity costs of forgone market wages for AmeriCorps members	AmeriCorps members	• Parent Possible • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-b)	X	X	X

Benefit or cost			Total benefits per federal dollar	Total benefits per funder dollar	Federal government benefits per federal dollar
Benefits	**Stakeholder group**	**Data sources**	**X indicates inclusion in the ROI numerator**		
Opportunity costs of federal taxes on forgone market wages for AmeriCorps members (e.g., federal income and Social Security taxes)	Federal government	• Parent Possible • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-a) • U.S. Bureau of Labor Statistics (2019-b) • Tax rate data on Bankrate.com and Loughead (Tax Foundation, 2020) • Social Security Administration (2020)	X	X	X
Opportunity costs of state and local taxes on forgone market wages for AmeriCorps members (e.g., state income and state/local sales taxes)	State and local governments	• Parent Possible • U.S. Census Bureau (2019-a) • U.S. Bureau of Labor Statistics (2019-a) • U.S. Bureau of Labor Statistics (2019-b) • Loughead (Tax Foundation, 2020)	X	X	X

Benefit or cost			Total benefits per federal dollar	Total benefits per funder dollar	Federal government benefits per federal dollar
Benefits	**Stakeholder group**	**Data sources**	**X indicates inclusion in the ROI numerator**		
Opportunity costs of federal funders	Federal government	• AmeriCorps • U.S. Department of the Treasury (2019)	X	X	X
Opportunity costs of program funders	Non-government funders	• Parent Possible • U.S. Department of the Treasury (2019)		X	
AmeriCorps grant costs (excluding living allowances and education awards provided to AmeriCorps members)	Federal government (AmeriCorps)	• AmeriCorps	X	X	X
AmeriCorps member living allowances and education awards	Federal government (AmeriCorps)	• AmeriCorps	X	X	X
Parent Possible costs	Parent Possible	• Parent Possible		X	
Other federal government funding (not provided by AmeriCorps)	Federal government	• Parent Possible		X	X
State and local government funding	State and local governments	• Parent Possible		X	
Other non-government costs	Non-government funders	• Parent Possible		X	

Appendix B: Additional Information on the Methodology

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

Methodology Overview

Calculating the ROI for Parent Possible's HIPPY program included the following steps:

- Measuring and monetizing program benefits to HIPPY children, HIPPY AmeriCorps members, and the different levels of government
- Estimating forgone benefits (opportunity costs)
- Assessing program costs
- Calculating the ROI

This ROI analysis included only those benefits that could be reasonably monetized given the available data and that likely would not have occurred without Parent Possible's HIPPY program.

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

- **Short-term.** This scenario assumes short-term earnings impacts. The assumption is that earnings impacts are limited to a single year after program exit. This scenario also assumes no lifetime benefits are realized.
- **Medium-term.** This scenario assumes a longer duration of earnings impacts. The assumption is that earnings impacts last 15 years. A 3 percent discount rate is applied each year to represent net present value in 2022 dollars.[14] This scenario also assumes only half of the net present value of lifetime benefits is realized.
- **Long-term.** This scenario assumes sustained earnings impacts throughout HIPPY 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 2022 dollars. This scenario also assumes the entire net present value of lifetime benefits is realized.

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

There are some differences between the three scenarios. One is the length of time that increased employment—and earnings associated with that employment—are sustained. The other is what portion of lifetime benefits, when applicable, are realized.[15] For each ROI calculation, three estimates using the three scenarios were developed, which is shown in greater detail in the Calculating ROI section.

Measuring Program Benefits

The first step in calculating the ROI for Parent Possible's HIPPY program is to measure and monetize the program benefits. HIPPY children, HIPPY AmeriCorps members, and various levels of government benefit from Parent Possible's HIPPY program. 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 the HIPPY Children

Brown and Lee (2014) measured the impact of HIPPY on preschool-age participants. The evaluation used propensity score matching based on gender, ethnicity, and socioeconomic status. The objective was to determine the impact of HIPPY on outcomes such as school attendance, repeated grades, school performance, and standardized test scores. The evaluation had 516 former HIPPY participants and 516 matched non-participants. The authors found that for former HIPPY participants, repeated grades for 9th grade were 53 percentage points lower.

Applying these findings to Parent Possible's 705 participants in the 2018–2019 academic year, the analysis estimated that 372 (705 x 53%) of the participants would not be held back in 9th grade. Using Larsen & Valant's 2022 finding that repeated grades lowers high school graduation by 19 percentage points, about 70 participants will no longer drop out of high school. The estimated 70 participants were then demographically weighted based on participant demographics, as shown in Table 11. To estimate the additional annual earnings attributable to increased high school graduation levels due to HIPPY participation, the analysis multiplied the numbers of additional graduates by demographic category by the corresponding estimated additional annual earnings.

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

Table 2. Additional High School Graduates and Expected Median Annual Additional Earnings (2022$)

HIPPY children	Additional high school graduates		Annual additional earnings		Total annual additional earnings	
Race/ethnicity	Male	Female	Male	Female	Male	Female
White	8	7	$13,338	$10,667	$109,691	$70,811
Black	2	1	$6,552	$6,756	$10,387	$8,032
Hispanic	24	24	$8,988	$7,889	$218,189	$186,813
Asian	1	1	$13,413	$17,309	$10,488	$19,689
Multiracial	1	1	$10,408	$9,905	$11,657	$16,054
Total	**36**	**34**	**N/A**	**N/A**	**$661,272**	

Note: Numbers may not sum due to rounding.
Sources: Brown and Lee (2014) and U.S. Census Bureau (2019-c)

Table 12 shows the gross earnings of the participants for the three scenarios, discounted at a 3 percent rate.[16] Along with the earnings, Table 11 also shows government benefits derived from increased education: the lifetime reduction in government spending on public assistance at the federal and state levels, additional payroll taxes at the federal and state levels, and additional sales tax revenues to state and local governments.

Table 3. Additional Earnings for Participants and Resulting Public Benefits by Scenario (2022$)

Scenario	Gross additional earnings of participants	Reduced government spending	Payroll tax payments*	Estimated additional sales tax revenue
Short-term	N/A	N/A	N/A	N/A
Medium-term	$269,783	$3,578,717	$65,503	$8,487
Long-term	$4,251,413	$7,157,434	$1,032,243	$71,477

*Summed federal and state income, Medicare, and Social Security taxes based on gross earnings of HIPPY children

This analysis also calculated federal income, state income, Medicare, and Social Security taxes on the additional income.[17] The summation of these taxes for each of the three scenarios is shown in Table 12. Subtracting those taxes from the gross additional income resulting from increased educational attainment for HIPPY children yields post-tax income. From this, sales tax revenue to the state of Colorado (and local

[16] The 3 percent discount rate is based on Office of Management and Budget (2003).

[17] For the additional high school and college graduates, the analysis assumes a federal marginal income tax rate (12 percent), a Medicare tax rate (1.45 percent), a Social Security tax rate (6.20 percent), and the Colorado income tax (4.63%). The assumed Colorado sales tax, state and local, is 7.63 percent.

governments in Colorado) is estimated, assuming participants stay in Colorado after graduation. These estimates are presented across the three scenarios. Note that because the participants are preschool age, they would not begin to earn income until after high school graduation (between 13 and 16 years later for 2- and 5-year-olds). No additional earnings and benefits are estimated for the short-term scenario. For the medium-term scenario, 1 year of high school–related attainment benefits are calculated for 5-year-olds. For the long-term scenario, 2-year-olds have 14 years of high school graduation–related benefits and 5-year-olds will have 17 years of high school graduation–related benefits.

Benefits to HIPPY AmeriCorps Members

The HIPPY AmeriCorps members who provide services as part of the HIPPY program benefit from their national service. This analysis estimated the following benefits:

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

Living Allowance and Education Award

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

Both the living allowances and education awards (considered one-time benefits that are not discounted or spread over time) are taxable and represent member benefits. However, only the portion of education awards used by members to pay off existing student loans is considered a direct member benefit. The portion that is utilized to pursue further postsecondary education is only used in calculating members' additional lifetime earnings due to the increased educational attainment they experience post-service from using the education award. This is done to avoid double counting. This analysis included the post-tax values of the living allowance and the portion of the education award used to repay student loans as HIPPY AmeriCorps member benefits, which are listed in Table 13. The portion of the education award used to fund additional postsecondary education is discussed in the following section.

Table 4. HIPPY AmeriCorps Member Benefits From the Living Allowance and Education Award

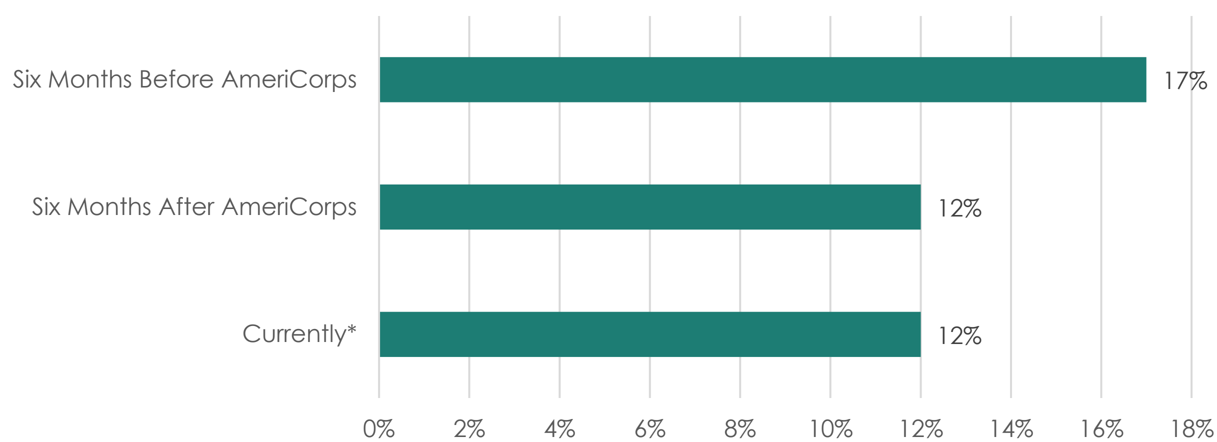
Benefit	Post-tax value (2022$)	Notes
Living allowance	$345,095	Post-tax living allowances members receive during service
Education award used to pay off student loans	$44,560	Post-tax education award amount used to pay off outstanding student loans
Total	**$390,040**	

Sources: Parent Possible and Friedman et al. (2016)

Increased Earnings due to Reduced Unemployment

According to Friedman et al. (2016), the percentage of AmeriCorps members unemployed was 5 percentage points lower 6 months after serving in AmeriCorps compared to 6 months before serving. The study did not provide actual employment rates for AmeriCorps members pre- and post-service, but instead provided the unemployment rates shown in Figure 4 (17 percent vs. 12 percent) in which the change between them represents a 5-percentage-point decrease.

Figure 4. Percentage of AmeriCorps Alumni Seeking Work, Providing Caregiving, or Occupied Outside of the Workforce From Friedman et al. (2016)



*"Currently" refers to the summer 2016 survey. Respondents were from the 2005, 2010, and 2013 AmeriCorps cohorts, so respondents varied in how much time had elapsed since their AmeriCorps service.
Source: Friedman et al. (2016)

A direct member benefit from being employed post-service is additional income earned. To monetize this 5-percentage-point decrease in unemployment, ICF requested that Parent Possible provide the gender, age, pre-service educational attainment, and race/ethnicity distribution of AmeriCorps members who served with Parent Possible's HIPPY program for the 2018–2019 program year. Based on those demographics, the analysis used annual average earnings data from ASEC for

March 2019 to estimate HIPPY AmeriCorps members' additional earnings due to the reduced unemployment (U.S. Census Bureau, 2019-b).

Specifically, the analysis used ASEC data to calculate the per-person pre-tax average annual earnings for 18- to 34-year-olds weighted by the demographic distribution of HIPPY AmeriCorps members who served during the 2018–2019 program year. This value expressed in 2022 dollars was $26,499 as shown in Table 14. The analysis then multiplied the 5-percentage-point decrease in unemployment from Friedman et al. (2016) by the number of HIPPY AmeriCorps member full-time equivalents (FTEs) who served during the 2018 to 2019 program year (i.e., 27). This estimated the number of *additional* HIPPY AmeriCorps member FTEs employed due to national service (i.e., 1.4). To estimate the additional pre-tax earnings that stemmed from the reduced unemployment, the $26,499 annual earnings amount was multiplied by the additional number of HIPPY AmeriCorps members employed post-service. This represents the additional income earned by HIPPY AmeriCorps members due to serving with Parent Possible.

Table 5. Additional Pre-Tax Earnings for HIPPY AmeriCorps Members From Reduced Unemployment Based on HIPPY AmeriCorps Member Demographics

Metric	Value (2022$)
Average per-person pre-tax annual earnings of employed 18- to 34-year-olds weighted by HIPPY AmeriCorps member demographics (e.g., gender, race/ethnicity, and pre-service education level)	$26,499
Reduction in AmeriCorps members' unemployment	5%
Total expected increase in earnings, per member	$1,325
HIPPY AmeriCorps member FTEs	27.3
Cumulative additional pre-tax earnings	**$31,536**
Cumulative additional post-tax earnings	**$24,031**

Sources: Parent Possible (2023), Friedman et al. (2016), and U.S. Census Bureau (2019-b)

To avoid double counting, the additional *post-tax* earnings is used to calculate the direct benefit to HIPPY AmeriCorps members, rather than the additional *pre-tax* earnings. The post-tax annual earnings for the additional HIPPY AmeriCorps member FTEs employed in Table 15 excludes payroll taxes (e.g., federal and state income, Social Security, and Medicare). The payroll tax rates used are described in more detail in the Benefits to Government section.

Based on these calculations, the cumulative additional post-tax earnings for HIPPY AmeriCorps members for the three different scenarios—discounted in 2022 dollars using data from the Office of Management and Budget (2003)—are shown in Table 15. These monetary amounts represent the additional post-tax earnings realized due to the employment gain that is solely attributed to Parent Possible's HIPPY program.

Table 6. Cumulative Additional Post-Tax Earnings Derived From Reduced Unemployment due to Serving With the HIPPY Program by Scenario

Scenario	Cumulative additional post-tax earnings due to serving with the HIPPY program (2022$)
Short-term	$23,331
Medium-term	$231,369
Long-term	$297,014

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

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

The AmeriCorps education award pays for some portion of members' increased postsecondary educational attainment, and the future earnings derived from that educational attainment are treated as a direct benefit to HIPPY AmeriCorps members. To calculate the portion of members' increased educational attainment that is attributable to Parent Possible's HIPPY program, this analysis used cost data from the National Center for Education Statistics (NCES). Table 16 details the average total cost for each degree type and the portion of the cost that the post-tax education award amount (i.e., $4,815) represents ($6,195 before taxes[18]). The analysis used these percentages to estimate the lifetime benefits of postsecondary educational attainment that can be attributed to the education award. For instance, according to NCES (2020), the average annual cost of a public, in-state, 4-year academic institution during the 2019–2020 academic year was $24,869. This amounts to more than $100,000 for 4 years if expressed in 2019 dollars. The $4,815 post-tax education award only represents 4.8 percent of the cost of that degree, so the Parent Possible program could only be

Additional earnings derived from AmeriCorps members' *reduced unemployment* were calculated annually and then discounted based on the short-term, medium-term, and long-term scenarios in net present 2022 dollars.

For additional earnings derived from AmeriCorps members' *increased postsecondary educational attainment*—due to using education awards—Trostel (2015) did not provide data on how earnings accrue over time. Therefore, this analysis treated the increases in earnings as lifetime values expressed in 2022 dollars. The analysis assumed 100 percent of those lifetime earnings accrued by year 30 (i.e., in the long-term scenario), 50 percent accrued by year 15 (i.e., in the medium-term scenario), and nothing accrued 1 year post-program (i.e., in the short-term scenario).

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

credited with 5 percent of the completion of HIPPY AmeriCorps members' bachelor's degrees post-service.

Table 7. Average Total Cost of Education and Portion Attributable to Education Award by Degree Type

Degree type[19]	Average cost (2019$)*	Percentage of degree total cost covered by post-tax education award
Associate degree	$30,824	15.8%
Bachelor's degree	$101,948	4.8%
Graduate degree	$24,342	20.0%

*Costs were provided for the 2019 to 2020 academic year by NCES (2020) for associate degree and bachelor's degree types. Costs were provided for the 2018 to 2019 academic year by NCES (2019) for graduate degree type.

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

To determine the future lifetime earnings realized due to the use of the education award post-service (and, later, the associated lifetime taxes, which are described in the Benefits to Government section), the analysis first determined the number of additional postsecondary degrees estimated to be completed by degree type. The 27 HIPPY AmeriCorps member FTEs who served during the 2018–2019 program year were distributed across the degree types by the education award use findings listed in Friedman et al. (2016). Specifically, Friedman et al. (2016) reported 46 percent of AmeriCorps State and National member alumni used their education award to pursue postsecondary degrees after program completion. This makes the number of HIPPY AmeriCorps member FTEs expected to use the education award to pursue additional postsecondary education roughly equal to 12. Specifically, Friedman et al. (2016) indicated that the 46 percent comprises 2 percent using the education award to attend a technical or vocational training program, 21 percent using it to obtain a bachelor's degree, and 23 percent using it for graduate school.[20] This results in the number of HIPPY AmeriCorps members estimated to *pursue*—due to using the education award—an associate degree, a bachelor's degree, or a graduate degree post-service to be roughly 1, 5, and 6, respectively. These values are shown in Table 17.

[19] Costs for an associate degree include tuition, required fees, books, and supplies for a public, in-state, 2-year program; costs for a bachelor's degree include tuition, required fees, books, supplies, and on-campus housing for a public, in-state, 4-year program; costs for a graduate degree include tuition and required fees for a public, in-state, 2-year graduate program.

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

Table 8. Estimates of the Number of Postsecondary Degrees Pursued Using the Education Award by Degree Type

Degree type	Total HIPPY AmeriCorps member FTE count	Percentage estimated to pursue postsecondary education according to Friedman et al. (2016)	Number of degrees pursued using the education award
Associate degree	27	2%	0.5
Bachelor's degree	27	21%	5.3
Graduate degree	27	23%	5.8
All degrees	—	**46%**	**11.6**

Note: Numbers may not sum due to rounding.

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

Next, the difference in the additional lifetime pre-tax earnings from one degree type to the subsequent degree type was estimated using data provided by Trostel (2015), which is shown in the fifth column of Table 18 and expressed in 2022 dollars.[21] For instance, using Trostel (2015) data, the lifetime earnings in 2022 dollars of someone with an associate degree is about $1 million, while that of someone with a bachelor's degree is almost $1.5 million. The difference between these two metrics (roughly $602,000 as show in Table 18) represents the additional lifetime earnings realized as a result of gaining a bachelor's degree if an associate degree was already completed. This process was completed for all postsecondary degree types to conservatively estimate the additional lifetime earnings realized by HIPPY AmeriCorps members due to an increase in postsecondary educational attainment. Trostel (2015) also included data on lifetime taxes paid, which was converted to 2022 dollars and then used to estimate the post-tax lifetime earnings that would be realized per additional postsecondary degree received. Specifically, the lifetime taxes paid amounts were subtracted from the pre-tax additional lifetime earnings amounts to estimate the additional post-tax lifetime earnings, a direct benefit to HIPPY AmeriCorps members.

[21] For an associate degree, comparisons were made between metrics for a high school diploma and those for an associate degree. For a bachelor's degree, comparisons made were between metrics for an associate degree and those of a bachelor's degree. For a graduate degree, comparisons made were between metrics for a bachelor's degree and those of a master's degree.

Table 9. Additional Earnings From AmeriCorps Members' Use of the Education Award

Degree type	Number of degrees pursued using the education award	Percentage of degree total cost covered by post-tax education award	Number of degrees obtained using the education award	Additional pre-tax lifetime earnings per degree type	Additional lifetime taxes paid per degree type	Additional post-tax lifetime earnings per degree type	Total post-tax lifetime earnings using the education award
Associate degree	0.5	15.8%	0.1	$194,956	$95,776	$99,180	$7,914
Bachelor's degree	5.3	4.8%	0.3	$602,433	$289,787	$312,646	$79,575
Graduate degree	5.8	20.0%	1.1	$534,751	$202,189	$332,562	$386,271
Total	**11.6**	**—**	**1.5**	**—**	**—**	**—**	**$473,759**

Note: Numbers may not sum due to rounding.
Sources: AmeriCorps (n.d.), U.S. Bureau of Labor Statistics (2019-a), Parent Possible, Friedman et al. (2016), NCES (2020), NCES (2019), and Trostel (2015)

To isolate the increase in additional lifetime earnings specific to members using the education award, the number of HIPPY AmeriCorps members who used the education award for this purpose by degree type was reduced by the percentage of the degree cost that can be covered by the $4,815 post-tax education award received post-service, displayed in the third column of Table 18. As a result, the analysis estimated that the use of the education award among HIPPY AmeriCorps members produced roughly 0.1 additional associate degree, 0.3 additional bachelor's degree, and 1.1 additional graduate degrees post-service. Then, the number of additional degrees *obtained* was applied to the 2022 additional post-tax lifetime earnings by degree type. This calculates the additional lifetime post-tax earnings realized by HIPPY AmeriCorps members from their increase in postsecondary educational attainment that is credited to the use of the education award post-service. The total additional lifetime post-tax earnings amount was roughly $474,000 across HIPPY AmeriCorps members. Of note, these lifetime earnings are *in addition to* the earnings derived from AmeriCorps members' gains in employment as delineated in the previous section. To reiterate, the earnings from HIPPY AmeriCorps members' reduced unemployment differs depending on the scenario (i.e., short-term, medium-term, and long-term) since it is uncertain how long these earnings will persist. For the post-tax lifetime earnings—and all lifetime benefits in this ROI analysis—the entire amount is realized in the long-term, half of it is realized in the medium-term, and no amount is realized in the short-term.

Benefits to Government

State and Local Governments

State and local governments benefit from:

- Additional state income tax revenue from HIPPY AmeriCorps members' increased earnings due to reduced unemployment
- Additional lifetime state and local taxes due to HIPPY AmeriCorps members' increased postsecondary educational attainment[22]
- Additional lifetime state and local taxes due to HIPPY participants' increased educational attainment[23]
- Additional state and local taxes from the living allowance and education award received by these members
- Additional state and local sales tax revenue from AmeriCorps members' increased consumption due to reduced unemployment
- Reduced lifetime spending on public assistance, social insurance, and corrections[24] due to HIPPY AmeriCorps members' increased postsecondary educational attainment

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

For additional tax revenue derived from AmeriCorps members' *increased postsecondary educational attainment*—due to using education awards—Trostel (2015) did not provide specific tax rates. Therefore, this analysis treated the increases in tax revenue as lifetime values expressed in 2021 dollars. The analysis assumed 100 percent of those lifetime tax revenues accrued by year 30 (i.e., in the long-term scenario), 50 percent accrued by year 15 (i.e., in the medium-term scenario), and nothing accrued 1 year post-program (i.e., in the short-term scenario).

Tax revenue derived from participants' increased educational attainment assumes a federal marginal income tax rate of 12 percent, the state income tax rate for Colorado (4.25 percent), the Medicare tax rate (1.45 percent), and the Social Security tax rate (6.2 percent). The assumed Texas sales tax, state and local, is 8.19 percent. The analysis applied these tax rates to the estimated earnings in each scenario.

[22] This benefit was calculated using lifetime tax revenue data from Trostel (2015). These values summed lifetime state income taxes, lifetime property taxes, and lifetime sales taxes by education level.

[23] This benefit was calculated using lifetime tax revenue data from Levin (2007) for high school graduation by race and gender.

[24] Reduced spending on public assistance due to HIPPY AmeriCorps members' increased postsecondary educational attainment is included as a federal government benefit, not a state and local government benefit. This is because public assistance includes programs funded at the federal level (e.g., TANF, etc.).

- Reduced lifetime spending on public assistance, social insurance, and corrections[25] due to increased educational attainment of HIPPY children

State income tax revenue: To measure income tax revenue generation that stems from reduced unemployment for state governments (any local income taxes are not included), the additional pre-tax earnings of HIPPY AmeriCorps members that are solely attributed to Parent Possible's HIPPY program are taxed by a weighted estimated proportional state income tax rate. This tax rate considers state-specific progressive tax brackets and standard deduction amounts. Based on the taxable income, the analysis estimated the proportional state income tax for each state as the amount of state income taxes paid per HIPPY AmeriCorps member divided by their pre-tax earnings. This analysis then calculated the weighted average of these state-specific tax rates—using these states' populations from the 5-year estimates of the 2019 American Community Survey (U.S. Census Bureau, 2019-a)—to estimate a weighted national tax rate (i.e., 2.4 percent). A weighted national tax rate was used because HIPPY AmeriCorps members may disperse to various locations nationwide following their service terms and continue to migrate over the course of their working years.

Lifetime state income tax revenue values are also provided by Trostel (2015) by education level. Based on the number of postsecondary degrees estimated to be obtained due to the use of the education award received after serving with Parent Possible's HIPPY program, additional lifetime state income taxes are realized. Thus, the additional lifetime state income taxes' paid values—informed by data from Trostel (2015)—were first converted to 2022 dollars. The analysis then multiplied them by the inferred number of degrees obtained using the education award (which are listed in the fourth column of Table 17).

State governments also receive state income taxes from the education awards that AmeriCorps members receive post-service. The analysis estimated the pre-tax education award amount in 2019 dollars (i.e., $6,195).[26] Then the analysis multiplied it by the number of HIPPY AmeriCorps member FTEs expected to redeem the award and use it to pursue postsecondary education or to repay outstanding student loans, based on findings from Friedman et al. (2016). The result represents the pre-tax cumulative education award amount expected to be received by HIPPY AmeriCorps members. The portion of this value taxed by state income taxes was estimated using a weighted state income tax rate specific to the per-person education award amount. Additionally, state income taxes were estimated for the living allowance amount received by HIPPY AmeriCorps members during their service term using tax rates

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[25] Reduced spending on public assistance due to HIPPY AmeriCorps members' increased postsecondary educational attainment is included as a federal government benefit, not a state and local government benefit. This is because public assistance includes programs funded at the federal level (e.g., TANF, etc.).

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

specific to the per-person value. The different rates used for these member benefits are enumerated in Table 22.

HIPPY children also generated additional income from increased education, but we assume participants will stay in Colorado. The cumulative pre-tax cumulative earnings will be taxed at Colorado's 4.63% income tax rate.

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

To estimate the additional post-tax earnings as a result of reduced unemployment and program participation that was spent on taxable goods, data from the Consumer Expenditure Survey (U.S. Bureau of Labor Statistics, 2019) were used. These data show the amount of spending on a number of different goods and services by national consumers across several different pre-tax income brackets.[27] The proportion of earnings that is spent on taxable goods (such as alcoholic beverages, housekeeping supplies, apparel, etc.) was then calculated for consumers with incomes that matched the per-person average pre-tax earnings of HIPPY AmeriCorps members. This value was 65 percent. This proportion was then applied to HIPPY AmeriCorps members' cumulative additional *post-tax* earnings to calculate the post-tax monetary amount they spend on taxable goods. Then the sales tax rate (i.e., 7.43 percent) was applied to estimate the resulting sales tax revenues that go to state and local governments due to HIPPY AmeriCorps members' reduced unemployment post-service.

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

For HIPPY children, the analysis estimated the number of additional high school graduates for each race, gender, and education level using Parent Possible program data. The analysis then estimated the increase in earnings for each group pre- and

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[27] To calculate the estimated taxable expenditures, Consumer Expenditure Survey (CE) Table 1203 was used from the U.S. Bureau of Labor Statistics (2019-c). This table lists the annual expenditure means by pre-tax income tax brackets. Thus, the pre-tax earnings of HIPPY AmeriCorps members were used instead of their post-tax earnings to calculate this metric. Please visit this site for more details: https://www.bls.gov/cex/tables/calendar-year/mean-item-share-average-standard-error.htm#cu-income.

post-income tax. The median income for each group was determined with 2019's Current Population Survey data (U.S. Census Bureau, 2019-c). With this, the proportion of earnings spent on taxable goods was calculated for each demographic group and applied to their post-tax earnings to calculate the amount they spend on taxable goods. Then the analysis applied the Colorado state and local sales tax (7.63 percent) to determine the increase in state and local sales tax attributable to additional education of HIPPY children.

State and local government cost savings: State and local governments also benefit from Parent Possible's HIPPY program through lifetime savings in public assistance, social insurance, and corrections—as reported in Trostel (2015) and Levin (2007)—due to the increase in HIPPY AmeriCorps members' postsecondary educational attainment after program exit and increased educational attainment of HIPPY children. Of note, social insurance includes unemployment insurance and workers' compensation. To calculate these lifetime non-federal government savings, the analysis first calculated the decrease in public assistance, social insurance, and corrections costs (and thus, savings) from one education level to the subsequent education level using data from Trostel (2015) and then multiplied these monetary amounts by the number of additional postsecondary degrees estimated to be obtained due to the use of the education awards and program participation. Levin (2007) provides these cost savings for obtaining a high school diploma by race and gender demographic groups. The analysis applied these savings by estimated additional graduates by demographic group to obtain the state and local cost savings of additional high school graduates.

To determine what portion of this differential represents lifetime cost savings to state or local governments versus the federal government, a different method was employed for each of these cost savings areas. For social insurance, 50 percent of lifetime unemployment insurance cost savings and all the lifetime cost savings for workers' compensation are apportioned to state and local governments (Oswald, 2018). Regarding reductions in lifetime corrections spending, the portion between the federal and state or local governments was determined based on data from Hyland (2015). Specifically, this report found that 8.4 percent of U.S. corrections costs are paid by the federal government and the remaining 91.6 percent is paid by state and local governments. Therefore, almost 92 percent of the lifetime cost savings in corrections due to HIPPY AmeriCorps members experiencing an increase in postsecondary educational attainment post-service are allocated to state and local governments.

Reduced education expenditures: State and local governments also have reduced expenditures due to avoided repeated grades in high school for HIPPY children. Brown and Lee (2014) found a 53-percentage-point reduction in repeated grades due to HIPPY program participation. Applying these findings to Parent Possible's 705 participants in the 2018–2019 academic year, the analysis estimated that 372 (705 x 53%) of the participants would not be held back. Using the NCES report for the 2020–2021 fiscal year of the per-pupil cost in Colorado, the analysis applies these findings for a one-time savings of educational expenditures (Cornman et al, 2022). The analysis used 2020–2021 estimates rather than 2018–2019 since the expenditure will take place in the future and it is the most recent year available.

Table 109. Local Government Savings due to Reduced Education Expenditures as a Result of Fewer Repeated Grades

Total HIPPY participants	Percentage of reduced repeated grades	HIPPY children who are not retained	Per-pupil cost in Colorado in 2020 (2022$)	Percentage of Colorado educational revenue from state/local governments	State/local expenditure savings
705	53%	372	$16,332	94%	$5,658,306

Note: Numbers may not sum due to rounding.
Source: Cornman et al. (2022), Parent Possible (2023), and Brown & Lee (2014)

Federal Government

The federal government benefits from:

- Additional federal income, Social Security, and Medicare tax revenue from HIPPY AmeriCorps members' increased earnings due to reduced unemployment
- Additional federal income, Social Security, and Medicare taxes from the living allowance and education award received by these members
- Additional lifetime federal taxes due to HIPPY AmeriCorps members' increased postsecondary educational attainment
- Additional lifetime federal taxes due to increased secondary educational attainment of HIPPY children
- Reduced lifetime spending on public assistance, social insurance, and corrections due to HIPPY AmeriCorps members' increased postsecondary educational attainment
- Reduced lifetime spending on public assistance, social insurance, and corrections due to increased educational attainment of HIPPY children

Federal income tax revenue: To measure federal income tax revenue that stems from reduced unemployment, the additional pre-tax earnings of HIPPY AmeriCorps members that are solely attributed to the HIPPY program—as well as the pre-tax living allowance and education award amounts received by HIPPY AmeriCorps members—are taxed by a federal income tax rate. The rates used are estimated proportional tax rates that consider the standard deductions and progressive tax brackets specific to federal income taxes as provided by El-Sibaie (2019). To reiterate, an estimated proportional tax rate equals the total amount of taxes estimated to be paid divided by the pre-tax amount of the value to be taxed (e.g., per-person average pre-tax earnings). The specific federal income tax rates used for these different benefits are enumerated in Table 22. Of note, different tax rates were used because they were specific to the per-person pre-tax earnings, living allowance, and education award amounts.

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

These values were used to calculate the additional income tax revenue realized by the federal government due to members' postsecondary education gains.

For HIPPY children, the analysis estimated the number of additional high school degrees obtained for each race, gender, and age (2- through 5-year-olds). The analysis then estimated an increase in earnings for each group pre-income tax. Then, the analysis applied a marginal tax rate (12 percent) to determine the increase in federal income tax attributable to additional education of HIPPY children.

Reduced education expenditures: The federal government also has reduced expenditures due to HIPPY children not repeating grades. Brown and Lee (2014) found a 53-percentage-point reduction in repeated grades due to HIPPY program participation. Applying these findings to Parent Possible's 705 participants in the 2018–2019 academic year, the analysis estimated that 372 (705 x 53%) of the participants would not be held back. Using the NCES report for the 2020–2021 fiscal year of the per-pupil cost in Colorado, the analysis applies these findings for a one-time savings of educational expenditures (Cornman et al, 2022). The analysis used 2020–2021 estimates rather than 2018–2019 since the expenditure will take place in the future and it is the most recent year available.

Table 20. Federal Government Savings due to Reduced Education Expenditures as a Result of Fewer Repeated Grades

Total HIPPY participants	Percentage of reduced repeated grades	HIPPY children who are not retained	Per-pupil cost in Colorado in 2020 (2022$)	Percentage of Colorado educational revenue from federal government	Federal expenditure savings
705	53%	372	$16,332	6%	$377,867

Note: Numbers may not sum due to rounding.
Sources: Cornman et al. (2022), Parent Possible (2023), and Brown & Lee (2014)

Social Security and Medicare tax revenue: Social Security and Medicare tax revenue are measured as fiscal gains as a result of the additional pre-tax earnings of HIPPY AmeriCorps members from their reduced unemployment and as a result of the pre-tax living allowances and education awards amounts received by members. However, tax rates specific to each revenue source are used. Social Security and Medicare use flat tax rates, 6.2 percent and 1.45 percent, respectively; thus, these rates are applied to the additional pre-tax earnings of HIPPY AmeriCorps members to calculate the additional amount of revenue the federal government receives. These same rates are also applied to the living allowance and education award amounts received by HIPPY AmeriCorps members to calculate additional tax revenue.

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

For HIPPY children, the analysis estimated the number of additional high school degrees obtained for each race, gender, and age (ages 2 to 7). The analysis then estimated an increase in earnings for each group pre-income tax. Then the analysis applied the Social Security and Medicare taxes (6.2 percent and 1.45 percent respectively) to determine the increase in federal income tax attributable to additional education of HIPPY children.

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

Table 21 shows the lifetime costs to the federal versus the state and local governments for each of these areas—where applicable—by education level in 2012 dollars as presented in Trostel (2015). The differences in these lifetime costs from one education level to the next represent cost *savings* per degree obtained.

Table 11. Government Costs by Education Attainment Level per Individual's Lifetime

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

Note: Numbers may not sum due to rounding.
Source: Trostel (2015)

As mentioned earlier in this appendix, as a result of Parent Possible's HIPPY program, the analysis estimated an additional 12 HIPPY AmeriCorps members would redeem the education award to *pursue* additional postsecondary education. Based on the portion of degree costs covered by the post-tax education award, this analysis calculated that an additional associate degree, bachelor's degree, and graduate degree would be *obtained* due to Parent Possible's HIPPY program. To conservatively calculate the federal government's lifetime savings associated with these education gains, the differences between the public assistance, federal social insurance, and federal corrections lifetime costs for these education levels and those that precede them are calculated and then expressed in 2022 dollars. These values are then multiplied by the number of additional postsecondary degrees estimated to be obtained—where appropriate—to represent the total cost savings realized by the federal government due to Parent Possible's HIPPY program. As previously mentioned where discussing the state and local governments' allocation of the reduction in lifetime social insurance and corrections expenditures, the federal government receives 50 percent of the lifetime cost savings in unemployment insurance (part of social insurance; Oswald, 2018) and more than 8 percent of the lifetime cost savings in corrections (Hyland, 2015). These federal government savings are shown in Table 23.

The federal government also realizes lifetime cost savings from increased educational attainment of HIPPY children. The methodology used to calculate these lifetime benefits is described in the previous State and Local Governments section. Specifically, this analysis estimated that the federal government realizes $4,880,525 in lifetime cost savings, which are attributable to Parent Possible's HIPPY program.

Table 22 shows the tax rates applied to HIPPY AmeriCorps members' additional pre-tax and post-tax earnings (derived from reduced unemployment), depending on the type of revenue being calculated. It also enumerates the tax rates used for the pre-tax living allowance and education award amounts received by HIPPY AmeriCorps members during their service term or upon service completion, respectively.

Table 12. 2020 Tax Rates and Ratio of Taxable Expenditures for HIPPY AmeriCorps Members' Earnings, Living Allowances, and Education Awards

Metric	Rate for additional earnings & education award*	Rate for living allowance & education award**	Notes
Estimated proportional federal income tax	5.09%	1.71%	• Tax rates are used that consider the progressive tax brackets and standard deductions specific to federal income taxes. • These rates are dependent on and applied to the pre-tax value of each metric being taxed.

Metric	Rate for additional earnings & education award*	Rate for living allowance & education award**	Notes
Estimated proportional state income tax	2.41%	1.71%	• Tax rates are used that consider the progressive tax brackets and standard deductions specific to each state's income taxes. Each state's tax rate is weighted based on the state's population and summed to estimate a weighted national average. • These rates are dependent on and applied to the pre-tax value of each metric being taxed.
Social Security tax	6.20%	6.20%	• Social Security tax rate for employees and employers. • These rates are applied to the pre-tax value of each metric being taxed.
Medicare tax	1.45%	1.45%	• Medicare tax rate for employees and employers. • These rates are applied to the pre-tax value of each metric being taxed.
Sales tax	7.43%; N/A to the education award	7.43%; N/A to the education award	• The combined state and average local tax rate for each state was summed and weighted based on states' populations to calculate a national weighted average sales tax rate. • The rate is applied to the additional post-tax earnings of members as well as their post-tax living allowance amount.
Ratio of taxable expenditures per national consumer	55%; N/A to the education award	65%; N/A to the education award	• Percentage of post-tax earnings spent on taxable goods and services that is used to calculate sales tax from post-tax earnings. • Ratio is dependent on the pre-tax value of members' additional earnings or the pre-tax living allowance amount.

*These rates are only used for the portion of the education award used to repay outstanding student loans.
**These rates are only used for the portion of the education award used for additional schooling.
Sources: Cammenga (2020), Social Security Administration (2020), U.S. Bureau of Labor Statistics (2019-c), and El-Sibaie (2019)

Summary of Benefits to Government

Table 23 shows the amount of tax revenue generated and savings in expenditures for state and local versus federal government that are solely credited to Parent Possible's HIPPY program and calculated using the methods described above. These government revenue and savings amounts are benefits that are included in the three ROI calculations, and they are derived from Parent Possible's HIPPY program impacts.

Table 13. State/Local and Federal Government Benefits by Stakeholder Group and by Scenario

Benefit type	Benefit (2022$)		
	Short-term	Medium-term	Long-term
State/local government benefits	**$48,438**	**$6,912,757**	**$8,403,587**
State income tax revenue from education awards and living allowances*	$29,106	$29,106	$29,106
State and local sales tax revenue from living allowances	$18,061	$18,061	$18,061
State income tax revenue from increased employment	$488	$4,842	$6,216
State and local sales tax revenue from increased employment	$782	$7,752	$9,951
State income, sales, and property taxes from AmeriCorps member educational attainment (lifetime)	$0	$33,457	$66,915
Savings in reduced education expenditures from reduced repeated grades for HIPPY children	$0	$5,658,306	$5,658,306
State income, sales, and property taxes from educational attainment of HIPPY children (lifetime)	$0	$20,978	$334,525
Savings in reduced public assistance, social insurance, and corrections spending from member postsecondary educational attainment (lifetime)	$0	$1,798	$3,597
Savings in reduced public assistance, social insurance, and corrections spending from educational attainment of HIPPY children(lifetime)	$0	$1,138,455	$2,276,909
Federal government benefits	**$117,956**	**$3,176,313**	**$6,549,462**
Federal income tax revenue from education awards and living allowances*	$65,463	$65,463	$65,463
Social Security and Medicare tax revenue from education awards and living allowances*	$46,477	$46,477	$46,477

Benefit type	Benefit (2022$)		
	Short-term	Medium-term	Long-term
Federal income tax revenue from employment	$3,674	$36,435	$46,773
Social Security and Medicare tax revenue from employment	$2,342	$23,227	$29,818
Federal income and Social Security tax revenue from postsecondary educational attainment (lifetime)	$0	$124,663	$249,327
Savings on reduced education expenditures from reduced repeated grades of HIPPY children	$0	$377,867	$377,867
Federal income and Social Security tax revenue from educational attainment of HIPPY children (lifetime)	$0	$53,012	$835,403
Savings in reduced social insurance, corrections, and public assistance spending from member postsecondary educational attainment (lifetime)	$0	$8,905	$17,811
Savings in reduced social insurance, corrections, and public assistance spending from educational attainment of HIPPY children (lifetime)	$0	$2,440,263	$4,880,525
Total	**$166,394**	**$10,089,069**	**$14,953,048**

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

Note: Numbers may not sum due to rounding.

Measuring Forgone Benefits (Opportunity Costs)

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

Forgone Benefits From Professional Opportunity Cost to HIPPY AmeriCorps Members

There is a professional opportunity cost to HIPPY AmeriCorps members for their period of national service, during which they could have been otherwise employed. This includes both the forgone earnings of HIPPY AmeriCorps members for their service term and the forgone taxes associated with those lost earnings. To calculate this, the analysis first used the demographic distribution of HIPPY AmeriCorps members for the 2018–2019 program year—in terms of gender, age, race/ethnicity, and pre-service education level—and ASEC data to estimate the weighted unemployment rate for this population (i.e., 5.3 percent). This represents how many of these HIPPY AmeriCorps members would have been unemployed if they did not serve with Parent Possible's HIPPY program. Using the weighted unemployment rate and the number of HIPPY AmeriCorps member FTEs who served during the 2018–2019 program year (i.e., 27.25), the analysis estimated the number of members who would have been employed without serving with Parent Possible's HIPPY program based on their demographic characteristics (i.e., 1.3). Then the analysis multiplied this value by the weighted post-tax annual earnings per person, shown in Table 24. The methodology used to calculate this latter monetary amount is described in the previous Increased Earnings due to Reduced Unemployment section. The post-tax amount subtracts all applicable payroll taxes (e.g., federal income, state income, Medicare, and Social Security). The product of multiplying 1.3 by the weighted post-tax annual earnings represents what HIPPY AmeriCorps members would have earned in total if they did *not* serve with Parent Possible's HIPPY program. Separately, the analysis then multiplied the number of HIPPY AmeriCorps member FTEs who served by the amount they earned during their national service in the form of a post-tax living allowance (i.e., $14,486 per person). This represents the aggregate amount HIPPY AmeriCorps members earned during their service term. The difference between what they would have earned if they did not serve and what they did earn because they served equals the total post-tax earnings forgone due to serving with Parent Possible's HIPPY program. These values and the formula used to calculate the forgone post-tax earnings are shown in Table 24.

Table 14. Forgone Earnings of HIPPY AmeriCorps Members for a Service Term

Row	Component	Value	Source
A	HIPPY AmeriCorps member FTEs	27.25	Parent Possible
B	Weighted unemployment rate	5.3%	U.S. Census Bureau (2019-b) & Parent Possible
C	Weighted post-tax annual earnings per person (2022$)	$22,043	U.S. Census Bureau (2019-b), U.S. Bureau of Labor Statistics (2019-a), & Parent Possible
D	Post-tax living allowance per person (2022$)	$14,486	Parent Possible
E	Total post-tax earnings forgone (2022$)	$174,300	[A x (1 – B) x C] – (A x D)

Note: Numbers may not sum due to rounding.

The second portion of this professional opportunity cost was the forgone taxes associated with the earnings of HIPPY AmeriCorps members lost for this year of service. Federal income, state income, Social Security, and Medicare taxes specific to the per-person weighted pre-tax earnings amount were calculated. Specifically, the estimated proportional federal and state income tax rates used were 4.8 percent and 2.4 percent, respectively. The analysis also estimated the sales taxes lost based on the per-person post-tax earnings forgone by the HIPPY AmeriCorps members. Using data from the Consumer Expenditure Survey (U.S. Bureau of Labor Statistics, 2019-c), the analysis estimated that based on the per-person weighted pre-tax earnings of HIPPY AmeriCorps members (i.e., $26,499), 55 percent of their income would have been spent on taxable goods, as opposed to 65 percent of the living allowance. Then the weighted combined state and local sales tax rate (i.e., 7.43 percent)—used earlier in this analysis to calculate government benefits—was applied to the difference in expected spending on taxable goods to represent the resulting sales tax revenue lost due to individuals serving with Parent Possible's HIPPY program instead of working for higher pay. The totals for these taxes are listed in Table 25.

Table 15. Forgone Taxes Associated With the Forgone Earnings of HIPPY AmeriCorps Members for a Service Term

Forgone taxes	Taxes without service term (2022$)	Taxes realized from living allowance (2022$)	Net taxes forgone (2022$)
Federal forgone taxes (i.e., federal professional opportunity cost)	**$86,856**	**$43,799**	**$43,057**
Federal income taxes	$33,577	$8,020	$25,557
Social Security and Medicare taxes	$53,280	$35,780	$17,500
Non-federal forgone taxes	**$40,562**	**$29,161**	**$11,042**
State income taxes	$16,546	$9,090	$7,456
Sales taxes	$24,016	$20,071	$3,945
Total taxes	**$127,419**	**$72,960**	**$54,459**

Note: Numbers may not sum due to rounding.

For the *federal government benefits per federal dollar* ROI calculation, only federal government (not total) benefits are included. Because of this, only federal components of the professional opportunity cost are subtracted from all federal government benefits—realized due to Parent Possible's HIPPY program—in this ROI calculation. The parts of the professional opportunity cost subtracted from these total federal government benefits include the forgone net federal income taxes (i.e., $25,557) and the net forgone Social Security and Medicare taxes (i.e., $17,500). The sum of these two values is called the *federal professional opportunity cost*. The sum of all the values listed in Table 25 and the forgone post-tax earnings of HIPPY AmeriCorps members is called the *total professional opportunity cost*. These naming conventions are referenced in the Calculating ROI section.

Forgone Benefits From the Investment Opportunity Cost to Funders

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

To calculate these forgone accrued interest values, the analysis first matched 2019 real interest rates provided by the Office of Management and Budget (2020) to each of the scenarios included in this ROI analysis.. The real interest rate for the 3-year maturity was used for the short-term scenario, the average between the 10-year and 20-year maturity rates was used as the rate for the medium-term scenario, and the 30-year maturity rate was used for the long-term scenario. These real interest rates were 1.3 percent, 1.45 percent, and 1.5 percent, respectively (Office of Management and Budget, 2020). Also, the number of years elapsed on these U.S. Treasury bonds was equal to the number of years the different scenarios assumed HIPPY AmeriCorps members' employment and earnings gains were sustained. These values are 1 year, 15 years, and 30 years for the short-, medium-, and long-term scenarios, respectively. Given that U.S. Treasury bonds compound biannually, according to the U.S. Department of the Treasury (2019), the formula used to calculate the forgone accrued interest for each of the three scenarios for the two funding streams is listed in Figure 5, where *A* equals the forgone accrued interest (e.g., the investment opportunity cost), *P* equals the amount of one of the funding streams, *r* equals the 2019 real interest rate, and *t* equals the number of years elapsed.

Figure 5. Compound Interest Formula Used to Calculate Investment Opportunity Cost

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

Based on this formula, the forgone benefits from the investment opportunity cost calculated by scenario and funding stream are listed in Table 26, along with their associated inputs. The forgone accrued interest amounts for all funding are called the *total investment opportunity costs* while that for federal funding only are called the *federal investment opportunity costs*. These naming conventions are referenced in the Calculating ROI section.

Table 16. Forgone Benefits From Investment Opportunity Cost Calculation by Scenario and Funding Stream

Metric	Short-term		Medium-term		Long-term	
	All funding	Federal funding only	All funding	Federal funding only	All funding	Federal funding only
Real interest rate	0.6%		0.8%		1.0%	
Years elapsed	1		15		30	
Funding amount	$2,170,790	$1,138,607	$2,170,790	$1,138,607	$2,170,790	$1,138,607
Forgone return (accrued interest)	**$32,684**	**$17,143**	**$525,311**	**$275,532**	**$1,031,381**	**$540,973**

Measuring Program Costs

Table 27 shows the costs of Parent Possible's HIPPY program by cost category and funding source. AmeriCorps funds roughly 20 percent of the program through their AmeriCorps State and National grant while other funders contribute 80 percent.

Table 17. Funding Sources and Amounts for Parent Possible's HIPPY Program (2018–2019)

Funding source	Amount	Percentage of Total
Cost categories	**$2,170,790**	
Operating	$1,407,617	65%
AmeriCorps member expenses	$401,252	35%
Funding source	**$2,670,146**	
AmeriCorps	$524,001	20%
Other	$2,146,146	80%

Note: Numbers may not sum due to rounding.
Source: Parent Possible (2023)

Calculating ROI

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

Since two of the calculations include benefits to society (e.g., HIPPY AmeriCorps members, HIPPY children, etc.), the results are expressed as cost–benefit ratios, while maintaining the ROI terminology. Specifically, these ratios take the form of the sum of monetized benefits over the sum of applicable program costs. The ROIs expressed as cost–benefit ratios in this study can be interpreted as the amount of dollars returned for every $1 of investment (or program cost).[28]

The formulas used to calculate each of the three ROIs are shown below:[29]

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

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

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

Table 28, Table 29, and Table 30 show the total benefits, opportunity costs, program costs, and ROI results for each scenario.

Table 18. ROI Calculations for Short-Term Scenario

Components	Total benefits per federal dollar (2022$)	Total benefits per funder dollar (2022$)	Federal government benefits per federal dollar (2022$)
Total program benefits	$579,765	$579,765	$117,956
Total forgone benefits (opportunity costs)	$266,856	$266,856	$63,039
Total program costs	$1,467,015	$2,670,146	$1,467,015
Result	**$0.21**	**$0.12**	**$0.04**

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

29 Non-government stakeholders in this ROI analysis include HIPPY AmeriCorps members and HIPPY children.

Table 19. ROI Calculations for Medium-Term Scenario

Components	Total benefits per federal dollar (2022$)	Total benefits per funder dollar (2022$)	Federal government benefits per federal dollar (2022$)
Total program benefits	$11,301,271	$11,301,271	$3,176,313
Total forgone benefits (opportunity costs)	$841,070	$841,070	$364,222
Total program costs	$1,467,015	$2,670,146	$1,467,015
Result	**$7.13**	**$3.92**	**$1.92**

Table 30. ROI Calculations for Long-Term Scenario

Components	Total benefits per federal dollar (2022$)	Total benefits per funder dollar (2022$)	Federal government benefits per federal dollar (2022$)
Total program benefits	$19,511,588	$19,511,588	$6,549,462
Total forgone benefits (opportunity costs)	$1,430,956	$1,430,956	$673,625
Total program costs	$1,467,015	$2,670,146	$1,467,015
Result	**$12.32**	**$6.77**	**$4.01**

Note: Program benefits are shown in nominal dollars.

Appendix C: Results by Year

Table 31 shows the breakdown of costs and benefits over a 30-year period. Program activities create a stream of benefits over time for HIPPY children, AmeriCorps members, the federal government, state and local governments, and society. AmeriCorps members' forgone benefits from professional opportunity cost apply to the first year. Funders' forgone benefits from investment opportunity cost accrue over time. Program costs are expended in the first year only.

Table 20. HIPPY Program Benefits and Costs per Year

Benefits and costs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Benefits	**$552,795**	**$299,070**	**$300,070**	**$301,101**	**$302,162**	**$303,256**	**$304,382**	**$305,541**
HIPPY children	$0	$0	$0	$0	$0	$0	$0	$0
AmeriCorps members	$362,092	$44,329	$45,073	$45,839	$46,628	$47,440	$48,277	$49,139
Federal government	$84,475	$173,659	$173,831	$174,008	$174,190	$174,378	$174,572	$174,771
State and local governments	$106,228	$81,082	$81,167	$81,254	$81,344	$81,437	$81,533	$81,631
Forgone benefits (opportunity costs)	**$261,442**	**$37,522**	**$37,522**	**$37,522**	**$37,522**	**$37,522**	**$37,522**	**$37,522**
Forgone benefits to members	$174,300	$0	$0	$0	$0	$0	$0	$0
Forgone tax revenue	$54,459	$0	$0	$0	$0	$0	$0	$0
Federal taxes	*$43,057*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
State/local taxes	*$11,402*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
Forgone benefits from total investments (all funders)	$32,684	$37,522	$37,522	$37,522	$37,522	$37,522	$37,522	$37,522
Forgone benefits from federal investments	*$17,143*	*$19,681*	*$19,681*	*$19,681*	*$19,681*	*$19,681*	*$19,681*	*$19,681*

Benefits and costs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Program costs	**$2,518,951**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Federal government	$1,432,768	$0	$0	$0	$0	$0	$0	$0
Non-federal	$1,086,183	$0	$0	$0	$0	$0	$0	$0
Benefits	**$1,048,323**	**$2,687,943**	**$3,034,135**	**$500,248**	**$311,884**	**$393,954**	**$656,744**	**$970,017**
HIPPY children	$0	$0	$0	$0	$0	$58,556	$248,239	$473,927
AmeriCorps members	$50,027	$50,941	$51,883	$52,853	$53,853	$54,882	$55,942	$57,034
Federal government	$221,400	$324,176	$345,986	$187,506	$175,862	$191,954	$243,558	$305,080
State and local governments	$776,896	$2,312,826	$2,636,266	$259,888	$82,170	$88,561	$109,006	$133,977
Forgone benefits (opportunity costs)	**$37,522**	**$37,522**	**$37,522**	**$37,522**	**$37,522**	**$37,522**	**$33,738**	**$33,738**
Forgone benefits to members	$0	$0	$0	$0	$0	$0	$0	$0
Forgone tax revenue	$0	$0	$0	$0	$0	$0	$0	$0
Federal taxes	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
State/local taxes	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
Forgone benefits from total investments (all funders)	$37,522	$37,522	$37,522	$37,522	$37,522	$37,522	$33,738	$33,738
Forgone benefits from federal investments	*$19,681*	*$19,681*	*$19,681*	*$19,681*	*$19,681*	*$19,681*	*$17,696*	*$17,696*
Program costs	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Federal government	$0	$0	$0	$0	$0	$0	$0	$0
Non-federal	$0	$0	$0	$0	$0	$0	$0	$0

Benefits and costs	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24
Benefits	**$1,011,248**	**$1,033,613**	**$1,056,650**	**$1,080,378**	**$1,104,818**	**$1,129,991**	**$1,155,919**	**$1,182,625**
HIPPY children	$502,694	$517,775	$533,308	$549,307	$565,787	$582,760	$600,243	$618,250
AmeriCorps members	$58,159	$59,317	$60,510	$61,739	$63,005	$64,309	$65,652	$67,035
Federal government	$313,144	$317,501	$321,988	$326,610	$331,370	$336,274	$341,324	$346,526
State and local governments	$137,251	$139,021	$140,844	$142,722	$144,656	$146,648	$148,700	$150,813
Forgone benefits (opportunity costs)	**$33,738**	**$33,738**	**$33,738**	**$33,738**	**$33,738**	**$33,738**	**$33,738**	**$33,738**
Forgone benefits to members	$0	$0	$0	$0	$0	$0	$0	$0
Forgone tax revenue	$0	$0	$0	$0	$0	$0	$0	$0
Federal taxes	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
State/local taxes	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
Forgone benefits from total investments (all funders)	$33,738	$33,738	$33,738	$33,738	$33,738	$33,738	$33,738	$33,738
Forgone benefits from federal investments	*$17,696*	*$17,696*	*$17,696*	*$17,696*	*$17,696*	*$17,696*	*$17,696*	*$17,696*
Program costs	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Federal government	$0	$0	$0	$0	$0	$0	$0	$0
Non-federal	$0	$0	$0	$0	$0	$0	$0	$0

Benefits and costs	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
Benefits	**$1,182,625**	**$1,210,132**	**$1,238,464**	**$1,267,647**	**$1,297,704**	**$1,328,664**
HIPPY children	$618,250	$636,798	$655,902	$675,579	$695,846	$716,722
AmeriCorps members	$67,035	$68,460	$69,928	$71,439	$72,996	$74,600
Federal government	$346,526	$351,884	$357,403	$363,087	$368,942	$374,972
State and local governments	$150,813	$152,990	$155,232	$157,542	$159,920	$162,370
Forgone benefits (opportunity costs)	**$33,738**	**$33,738**	**$33,738**	**$33,738**	**$33,738**	**$33,738**
Forgone benefits to members	$0	$0	$0	$0	$0	$0
Forgone tax revenue	$0	$0	$0	$0	$0	$0
Federal taxes	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
State/local taxes	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
Forgone benefits from total investments (all funders)	$33,738	$33,738	$33,738	$33,738	$33,738	$33,738
Forgone benefits from federal investments	*$17,696*	*$17,696*	*$17,696*	*$17,696*	*$17,696*	*$17,696*
Program costs	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Federal government	$0	$0	$0	$0	$0	$0
Non-federal	$0	$0	$0	$0	$0	$0

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