

TESTING METHODS FOR AUSTIN WORKFORCE PROGRAM EVALUATION



Research Project Report 213



TEXAS LBJ School

The University of Texas at Austin

Lyndon B. Johnson School of Public Affairs

Lyndon B. Johnson School of Public Affairs

Policy Research Project Report

Number 213

Testing Methods for Austin Workforce Program Evaluation

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A report by the

Policy Research Project on

Austin Workforce Program Evaluation

2021

The LBJ School of Public Affairs publishes a wide range of public policy issue titles.

ISBN: 978-1-951006-08-2

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Cover design by Anna Cristina Gonzalez

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List of Acronyms

BCR	Benefit Cost Ratio
BLS	Bureau of Labor and Statistics
CAN	Certified Nursing Assistant
CAP	Austin Energy's Customer Assistance Program
CHIP	Children's Health Insurance Program
COA	City of Austin
CTE	Career and Technical Education
EBT	Electronic Benefits Transfer
FPG	Federal Poverty Guidelines
GDP	Gross Domestic Product
HVAC	Heating, Ventilation and Air Conditioning
IC ²	UT Institute for Innovation, Creativity, and Capital
JTPA	Job Training Partnership Act
KPI	Key Performance Indicators
MAP	Medical Access Program (City of Austin)
NPV	Net Present Value
OECD	Organization for Economic Cooperation and Development
PRWORA	Personal Responsibility and Work Opportunity Reconciliation Act
RMC	Ray Marshall Center for the Study of Human Resources
ROI	Return on Investment
SNAP	Supplemental Nutrition Assistance Program
SROI	Social Return on Investment
SSI	Supplemental Security Income

SYEI	Summer Youth Employment Initiative
TANF	Temporary Assistance for Needy Families
UA	Urban Alliance
UI	Unemployment Insurance
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UT	The University of Texas at Austin
WIC	Supplemental Nutrition Program for Women, Infants, and Children

Foreword

The Lyndon B. Johnson School of Public Affairs has established interdisciplinary research on policy problems as the core of its educational program. A major element of this program is the nine-month policy research project, during which one or more faculty members direct the research of ten to twenty graduate students of diverse disciplines and academic backgrounds on a policy issue of concern to a government or nonprofit agency. This “client orientation” brings students face-to-face with administrators, legislators, and other officials active in the policy process and demonstrates that research in a policy environment demands special knowledge and skill sets. It exposes students to challenges they will face in relating academic research and complex data to those responsible for the development and implementation of policy, and teaches them how to overcome those challenges.

This project investigated three City of Austin workforce training programs in 2018-2019 to develop and test methods for evaluating the outcomes of those programs, as measured by rates of graduation, placed employment, return on investment, social return on investment, and consequences for employers and trainees. Research staff interviewed 95 program graduates and 11 employers as well as evaluated Texas Workforce Commission data to assess return on investment in training. This report evaluates each workforce training program and tests methods the City of Austin and each workforce training organization could use to improve program outcomes.

The curriculum of the LBJ School is intended not only to develop effective public servants, but also to produce research that will enlighten and inform those already engaged in the policy process. The project that resulted in this report has helped to accomplish the first task; it is our hope that the report itself will contribute to the second. Neither the LBJ School nor The University of Texas at Austin necessarily endorses the views or findings of this report.

JR DeShazo

Dean

Acknowledgments

Project staff would like to acknowledge the City of Austin, the Ray Marshall Center for the Study of Human Resources, Capital IDEA, Goodwill Industries, and Skillpoint Alliance. We also acknowledge the Institute for Innovation, Creativity and Capital (IC²) at The University of Texas at Austin, the LBJ School of Public Affairs, the Bess Harris Jones Centennial Professorship in Natural Resource Policy Studies, and the RGK Center for Philanthropy and Community Service. Lauren Jahnke copyedited the report.

We would like to thank a number of professionals who provided guidance, including:

- Preston Stewart, Austin's Economic Development Department;
- Pedro Moreno, LBJ research Librarian;
- Eva M. Rios-Lleverino, Capital IDEA Deputy Executive Director;
- Aaron Hill, Skillpoint Alliance Director of Programs;
- Rachel Hampton, Goodwill Central Texas Director of Workforce Advancement;
- Demarkus Pritt, Sr., Manager of Enterprise Network Operations, Charter Communications;
- Geronimo Rodriguez, Chief Advocacy Officer at Seton Healthcare; and
- Devin O'Bryan, Creative Director at IBM.

Each of them spoke to the PRP class and provided information on the workforce development system. The class also wishes to thank the more than one hundred workforce training participants and employers who participated in our interviews.

Abstract

A set of graduate students from the Lyndon B. Johnson School of Public Affairs (LBJ School) and The University of Texas at Austin wrote this report to the City of Austin to develop and test methods used to evaluate three local City of Austin workforce training programs: Capital IDEA, Goodwill Central Texas, and Skillpoint Alliance. This evaluation is based on interviews with employers and job-training graduates, along with an assessment of trainee wage data. This report describes background research and findings from interviews with employers and program graduates. It describes workforce training employment outcomes and programs, and estimates return on investment (ROI) and social return on investment (SROI). Based on the analysis of quantitative and qualitative data, the report recommends potential methods that could be utilized by the City of Austin to improve future evaluations of workforce training costs and outcomes.

Chapter 1. Project Overview

The City of Austin contracted with the Ray Marshall Center (RMC) and the Lyndon B. Johnson School of Public Affairs at The University of Texas to develop stakeholder-based methods that evaluate three local workforce development programs: Capital IDEA, Goodwill Central Texas, and Skillpoint Alliance. This report describes the information collected and the results of the study.

The Three Workforce Development Programs

Capital IDEA is a program designed to provide education and career advancement to adults and help them enter a skilled occupation and earn a living wage. The program pays the cost of tuition and textbooks for diverse educational programs focusing on technical and medical fields as well as professional trades and other programs.¹ The average length of time a participant spends before graduating from the program is 3.5 years,² and in 2017 the average starting wage for a graduate was \$20 per hour.³

Goodwill Central Texas provides job training and educational services to help individuals get jobs in high-demand areas. In 2017, it provided 2,948 job placements and provided job-related services to 10,356 people.⁴ The services Goodwill offers include career advancement training, interview coaching, internship opportunities, and career navigation, as well as educational programs and technical and or occupational certifications.⁵ Goodwill's Career and Technical Academy trains participants to pass a state certification exam for various technical, healthcare, and skilled trades fields.⁶ The Goodwill Excel Center is a free public charter high school that allows adults ages 18-50 to complete their high school diploma, complete professional certifications, and begin post-secondary education.⁷

Skillpoint Alliance uses its Gateway program to partner with industry leaders and other community organizations to provide short-term occupational skills training for vulnerable populations in Central Texas. Current training areas include nurse aide; medication aide; entry level heating, ventilation, and air conditioning technician; pre-apprentice electrician; pre-apprentice plumbing; and carpentry. Skillpoint Alliance targets low-income individuals who experience barriers to employment such as being unemployed or underemployed, justice-involved, transitioning veterans, recovering addicts, or those who are homeless or at risk of homelessness. Skillpoint assessments include job readiness, career and occupational interest, physical ability, and math and English abilities. Skillpoint programs last anywhere from four weeks to four months depending on the training area. During the program Skillpoint Alliance supports participants by offering free training, bus passes, tools, work clothes, shoes, books, and occasionally childcare.

Research and Methods

Project research staff reviewed literature on current domestic and international youth and adult training and program outcomes, including on-the-job training, classroom training, and basic skills assessment trainings. Based on the literature review, research staff created hypothetical

personas for workforce participants as a way to estimate potential training benefits and costs. Each persona was a hypothetical person designed to reflect patterns in wages and quality of life.

Research staff then used insight from the persona information to develop questions to use during an interview process. Research staff reached out via email and telephone to all 1,765 trainee graduates known to all three programs and conducted 96 in-person or telephone interviews. Staff also conducted interviews with representatives of 11 employers of workforce training graduates. Interviews provided qualitative and quantitative data on how training programs effect participants' lives.

Research staff used training participant wage data to estimate a return on investment (ROI) for each training program based on whether training participants, government accounts, and the City of Austin gained or lost money as a result of the training programs. Staff sought to determine the costs and benefits experienced by participants before program completion and up to five years post-graduation. Wage data were used to estimate participant change in tax revenue and government benefits. To estimate returns, performance measures were developed that define monetized returns (benefits) and realized expenditures (costs) for each stakeholder. Benefits and costs include such factors as "wage changes," "government assistance received," "program costs," or "changes in taxes." Research staff compared estimated returns with a matched comparison population of individuals who did not participate in or did not graduate from any workforce training program.

Research staff used interview survey and wage data to estimate a social return on investment (SROI) analysis, which estimates monetary benefits of certain outcomes for various stakeholder groups. Research staff estimated the value in economic terms of job satisfaction, quality of life, crime, and health outcomes after program completion. Interview survey data were used to estimate changes in how participants perceived their lives before and after training. To estimate returns for job satisfaction, the performance metric was the value of employee fringe benefits the participant received before and after graduating the program. Fringe benefits for program participants were estimated using a ratio of \$0.30 for every \$1 increase in wages. Research staff used UI (Unemployment Insurance) wage data from the Texas Workforce Commission to calculate average wage increases for each program participant.

To estimate returns for quality of life, two performance metrics were "changes in time spent with family" and "money spent on family activities." Research staff valued the time and money invested in family relative to the average participant hourly wage to calculate a monetary value. To estimate returns for avoidance of crime, the performance metric is based on each participant's involvement in the criminal justice system before and after graduating the program. All of the interview participants who graduated from the programs who had once been incarcerated indicated that after training they had left behind their prior criminal activity. Research staff valued the cessation of criminal activity by the average cost of incarceration to Travis County and the State of Texas for an individual.

To estimate returns for health, the performance metrics were the changes in a participant's health insurance status, exercise habits, and eating habits after graduating the program. Research staff compared emergency department visit rates and average hospital bills for both uninsured and insured patients to analyze health insurance status. For change in exercise and eating habits,

research staff used methodology from recent studies to estimate the value of costs associated with improved diets, improved health insurance and improved exercise.

Literature Review

Review of professional articles on evaluating workforce training programs identified two key findings across various countries and cities. More intensive mentoring and wrap-around services lead to better outcomes, such as increased wages. Danish, German, and Chicago program evaluations support the claim that on-the-job and vocational training have better outcomes (higher earning potential) than classroom training.

More intensive mentoring and wrap-around services lead to better outcomes, such as increased wages. Past studies conducted by the Ray Marshall Center compared individuals who received low-intensity job search and placement services to individuals who participated in intensive short, medium, or long-term job training. The Center concluded that participants' benefits outweighed costs. Less intensive training such as job readiness and search activities had less of an economic benefit, even as those processes are designed to quickly move workers back into the labor market.

Danish, German, and Chicago program evaluations support the claim that on-the-job and vocational training has better outcomes and higher earning potential than classroom training. On-the-job programs initially lead to reduced employment, as participants are less likely to seek employment during training. The net economic benefits from such programs turn positive as the length of the training program is extended. On-the-job training had greater increases in income in comparison to classroom training.

Participant Interviews

Interviews of workforce training graduates yielded many valuable insights regarding the trainees and their children (see Appendix A in the online appendices for interview documentation). Longer-term training programs lead to higher wages and economic mobility. Wrap-around services produce higher completion and retention rates for graduates. Training programs improve self-sufficiency and produce a multi-generational impact.

Longer-term training programs lead to higher wages and economic mobility for graduates. Graduates who invest in at least a year of education earn significantly higher wages after graduation than before entering the training program. For example, many Capital IDEA graduates reported that their one- to two-year training experience provided a stepping stone in a continuing education path. Many interviewees in longer-term training programs reported returning to school to pursue higher education, which results in continued economic mobility.

Wrap-around services provided by the training programs produced higher completion and retention rates for graduates. Wrap-around services offered by the three training programs led to increased participant incomes. Child care services and emergency funding to help students pay rent or utilities allowed participants to focus on their education. Many interviewees reported benefits from the available wrap-around services, with each program serving populations with different levels of need and vulnerability.

Training programs improve self-sufficiency and influence multiple generations. Interviewees reported a multi-generational impact for their children in response to their training efforts, based on support from staff to encourage continued focus on the training program. Interviewees credit their program in their self-evaluation for increased self-sufficiency efforts. Interviewees reported being able to afford extra-curricular activities for their children. Interviewees reported that their children achieved enhanced education levels based on parental participation in workforce training.

Return on Investment

Research staff developed a methodology to estimate returns from the investment in workforce training by the City of Austin. After all three programs, graduates earn more than the comparison group. All three programs experienced negative total returns for the first year after program completion (reflecting training expenses per se) but all three delivered positive total returns by year 4. The overall ROI may be even higher when observed over a period of more than four years, as long-term benefits accrue without corresponding new program costs.

For all three programs, training participants earn more than the comparison group by a larger margin in year 5 than before program participation. For Capital IDEA and Goodwill, training program participants start off with relatively higher incomes on average than the respective comparison groups. The pre-program wages for the training and comparison groups are closest for Skillpoint participants. By year 5 post-program completion, all three groups of program participants out-earn their respective comparison group of people who did not enter or did not complete training.

Net economic benefits were negative for the first year after program completion. However, all three programs delivered positive marginal annual returns by year 4. All three programs saw an increase in total returns from year 1 to year 2, followed by a dip in year 3, before again increasing in year 4 and peaking in year 5.

The overall ROI is likely to be higher when observed over a longer amount of time, as long-term benefits may continue to outweigh initial program costs. Training costs for each participant are early costs. Participants' relative increases in earnings drove additional benefits over time. It is likely that the true economic value of these programs is not fully realized in five years. As participants continue to out-earn nonparticipants, the City of Austin will continue to accrue benefits in the form of increased tax revenue and reduced levels of government assistance.

Social Return on Investment

Research staff developed a method based on qualitative comments by training graduates and the professional literature to estimate social return on investment—the economic value of some life changes after program graduation. There were three metrics that may be of interest to the City of Austin. Travis County and the State of Texas save money for each person who completes workforce training and does not return to crime and prison. The savings are about \$21,535 per year per graduated participant who had once been incarcerated due to savings on potential incarceration expenses. Health and welfare benefits for program graduates are positive, increasing with the number of years post-graduation. On average, employers saved \$4,089 in

decreased employee turnover costs and reduced recruitment costs four years after program graduation.

As mentioned, Travis County receives a positive return on investment of about \$21,535 per graduated participant who had a criminal record and avoids crime, due to savings on incarceration expenses. Twenty percent of survey respondents indicated that they were involved in the justice system before entering training programs. After graduating from their training programs, zero percent of interview respondents reported continued involvement in the justice system. Program participation reduces the potential costs to the city associated with having to incarcerate participants who might have become incarcerated had they not become involved with their training program, obtained productive employment, improved their lives, and avoided recidivist criminal activity.

Employees received fringe benefits from employment, and the value of these benefits increased with the number of years post-graduation. Fringe benefits generally account for an estimated 30 percent of total employee compensation. Research staff computed fringe benefits for program participants using the ratio of \$0.30 for every \$1 in increased wages. On average, participants earned \$6,133 in fringe benefits four years after program graduation. These benefits can include health insurance, vacations, retirement, social security, and unemployment insurance.

Employers as well as employees gained economic value from workforce training. A key saving was increased employee retention and decreased employee turnover. According to the U.S. Bureau of Labor Statistics, employers spend about 20 percent of an employee's annual income searching, recruiting, and training a new employee. Research staff used the ratio of \$0.20 out of every \$1 in increased wages to estimate employers' benefits from reduced costs of employee recruitment, reflecting increased job satisfaction by program participants. Research staff estimated that on average, employers saved \$4,089 in decreased employee turnover costs four years after program graduation.

Recommendations

Each of three training programs met its own program performance and participant outcome objectives. Each training program improved outcomes for participants through higher wages, improved social returns, and positive second generational impact. While the main role of training programs ought not be revenue generation for the city, the return on investment trends indicate that these programs over time actually will exceed stakeholder total costs.

Research staff developed four recommendations based on key findings:

1. Standardize data collection to evaluate participant outcomes. Each training program should implement a questionnaire that follows participants through program entry, leaving the program, and specific time intervals after completion including six months, three years, and five years out. All assessments of workforce training programs should be mandatory. A 10-year post completion questionnaire could be optional.

2. Wrap-around services enable improved training outcomes. All sources of evidence (including literature review, interviews, and ROI/SROI analyses) support the use of so-called

wrap-around services because these services help lead to participants' successful program completion. Wrap-around services enable higher retention rates due to providing needed services such as childcare, compensation for transportation, emergency funding for participants, and transitional services for program graduates such as referrals and job counseling. Research staff believe that if training programs connect with other providers for wrap-around services, this would be more efficient and feasible than asking each workforce training program to provide these services themselves.

3. The City of Austin should establish a commission to bring together workforce training stakeholders to discuss concerns. The city, employers/business associations, participants, and training programs are all interested in the success of workforce training. A COA commission on workforce training could provide independent advice to city council and departments on policy related to workforce development. This would not be a planning group but rather an independent coalition of diverse and affected stakeholders.

4. Consider the value of workforce training in middle schools and high schools. Adult training programs are effective in moving impoverished people out of poverty into better-paying, high-demand jobs. However, post-age-18 workforce training is relatively expensive due to the costs for mentorship, wrap-around services, and other support services required to serve these populations. One solution to reduce per-participant costs is to establish training and mentorship within middle and high schools that already have some of these components. Labor unions could partner with the local school districts to connect students to the skilled trades through apprenticeships.

Information from the interviews illustrated the positive multi-generational impacts of training programs. Apprenticeship opportunities to low-income youth could break the cycle of poverty within households, as teenagers can both attend school and earn an income. Offering apprenticeship opportunities in high schools could close a gender gap between men and women. For example, research from the Aspen Institute indicates that 2.5 million more women should be in the workforce.⁸ Partnerships could focus on training more young women into the trades, which could increase overall female labor force participation and representation.

¹ "Annual Report 2017," Capital Idea, p. 3, accessed March 26, 2019, <https://www.capitalidea.org/wp-content/uploads/2018/05/AR2017-web.pdf>.

² "FAQ," Capital IDEA, accessed March 26, 2019, <https://www.capitalidea.org/faqs/>.

³ "Annual Report 2017," Capital IDEA, p. 3, accessed March 26, 2019.

⁴ "Our Impact," Goodwill of Central Texas, accessed March 26, 2019, <https://www.goodwillcentraltexas.org/education-job-training/goodwill-career-technical-academy>.

⁵ "Education and Job Training," Goodwill of Central Texas, accessed March 26, 2019, <https://www.goodwillcentraltexas.org/education-job-training>.

⁶ "Goodwill Career and Technical Academy," Goodwill of Central Texas, accessed March 26, 2019, <https://www.goodwillcentraltexas.org/education-job-training/goodwill-career-technical-academy>.

⁷ "The Goodwill Excel Center," Goodwill of Central Texas, accessed March 26, 2019, <https://www.goodwillcentraltexas.org/excel-center>.

⁸ Maureen Conway and Mark Popovich, “Is America Missing 2.5 Million Women Workers?” The Aspen Institute, April 17, 2019, <https://www.aspeninstitute.org/blog-posts/is-america-missing-2-5-million-women-workers/>, accessed May 8, 2019.

Chapter 2. Project Introduction

The City of Austin (COA) contracted with the Ray Marshall Center (RMC) and Lyndon B. Johnson School of Public Affairs at The University of Texas (UT), working with the UT Institute for Innovation, Creativity, and Capital (IC²), to develop stakeholder-based methods to evaluate three workforce development programs—Capital IDEA, Goodwill Central Texas, and Skillpoint Alliance. This study uses qualitative and quantitative evaluation methods that include training participants’ experiences within and outside of the workplace to estimate economic and social returns on investment of local workforce development programs. Each job-training program provides either “short” (less than one year) and/or “long” (one or more years) job training. Each program uses its own evaluation metrics that focus on program completion, job placement, and wage data.

A research staff review of recent professional literature found that it is not common for scholars to investigate how job training affects the lives of trainees and their families outside of the workplace. Data from participants’ life experiences before and after training can enhance the understanding for all stakeholders, including evaluators, funders, and the general public, regarding the consequences of workforce development for individuals, employers, and the community. The UT team worked with the City of Austin, Capital IDEA, Goodwill Central Texas, and Skillpoint Alliance to address both the consequences of job training for trainees, their families, and employers, as well as how individual programs and/or the City of Austin can use evaluation methods to assess such outcomes.

The UT team approached these questions through four research phases. Research staff reviewed the existing literature on job-training evaluation strategy and methodology as a first step. Research staff created hypothetical “personas” or standard persons as a second step, whose narratives allowed analysts to estimate economic consequences of job training based on the rules of federal, state, and local human resource programs. These personas aided in framing survey questions for qualitative and quantitative findings. The third phase was a set of interviews. Research staff conducted a total of 11 qualitative interviews with employer partners affiliated with each of the three job-training organizations to understand an employer’s perspective on the outcomes of workforce training on their companies. Research staff contacted each of the 1,748 program graduates for which the three organizations had available information and invited them to discuss their experience and how training affected their lives; 96 program alumni participated in interviews.

LBJ School research staff worked with Ray Marshall Center staff to develop, adapt, test, validate, and assess methods to estimate economic and social returns on investment. Data for these analyses were based on Texas Workforce Commission (TWC) wage information and qualitative interviews. One approach is an economic return on investment—who gains and who loses from a training program. The second approach can be called a “social return on investment.” The SROI estimates the economic value of non-wage benefits that may result from training, such as improved health, time with family, and psychological well-being. Each SROI metric is based on interview insights as well as TWC wage data, as appropriate.

The final chapters of this report compare these four data sources to develop recommendations to the City of Austin and each program pertaining to evaluation of Austin workforce training programs. Below is a brief description of each training program and data they currently collect. Unless indicated otherwise, all data were provided to the LBJ School during Fall 2018 as unpublished information from each of the workforce development programs.

Project Background

Capital IDEA, Skillpoint Alliance, and Goodwill are all organizations working with individuals and groups typically excluded from the mainstream economy. Training programs and work opportunities can help the homeless, persons living below the poverty line, or the formerly incarcerated. These groups may be excluded from the mainstream economy or treated differently based on their race, ethnicity, poverty, citizenship, gender, or sexual orientation status.

This report evaluates three workforce training programs and their outcomes for the City of Austin. Higher education is not always attainable for all people. Workforce training programs can be an effective alternative to a university, particularly if there is a market for technical or professional trades, such as plumbing, electrical work, construction, heating/ventilation/air conditioning, nurse's aide/nurse, and other technical medical professionals. Such professions may rely on hands-on skills that require training shorter than a four-year degree. In Austin employers seek out such workers with technical skills, particularly as current 'baby-boomers' are aging out of employment.

Even in Austin with its low unemployment rate, there remains significant under-employment across marginalized groups. Both the City of Austin and workforce training programs are concerned with disrupting the cycle of inter-generational poverty, which is both an economic and a humanitarian goal. Three of these workforce training programs are described below.

If Austin seeks to continue to invest in the vocational training programs, Austin would benefit from data about each program's impact on employment and retention. Each workforce training program does maintain some level of documentation of graduates' and clients' employment. Employment *per se* is not an ideal performance measure to indicate program effectiveness. Following clients for 6 months to a year after program completion is of value in itself. However, employment retention after months does not capture long term training consequences and outcomes of training. Capital IDEA, Skillpoint Alliance, and Goodwill ought to regularly report on their participants' training experience and retained employment.

Capital IDEA

Capital IDEA's mission is to lift working adults out of poverty and into living wage careers through education and career advancement.

Founded in 1998, Capital IDEA is a non-profit organization with 26 staff members that facilitates advancement of low-income adults to higher wages and career success through post-secondary education. Capital IDEA provides training and extensive support services in healthcare, information technology, and skilled trade careers. Each training path offered by Capital IDEA has been identified by employers as an occupation in high demand with a starting

wage of \$17.12 per hour or more. In 2017, the average starting wage for Capital IDEA graduates was \$20 per hour. Sixty-four percent of these credentials were in the healthcare field; 44 percent were nurses. Capital IDEA's target population is the working poor—low-income unemployed and underemployed adults who are eighteen or older. Capital IDEA targets diverse participants. In 2017, participant demographics were 52 percent Hispanic, 23 percent African American, 20 percent white, 3 percent Asian, and 2 percent other races/ethnicities, and 75 percent were women.

Capital IDEA screens each potential program participant to determine individual ability to succeed in the intensive program. Specific program requirements include an income level that is at or below 200 percent of the federal poverty line, a minimum fifth-grade skill level in reading and math, and a high school diploma or General Educational Development credential (GED). Most participants enter the program with at least an eighth-grade skill level and spend two-and-a-half to three years training with Capital IDEA. The program begins with the College Prep Academy, a 12-week, 6.5 hour per day program to enhance reading, math, writing, and study skills. Weekly time is allotted for tutoring, advising, or other activities. More than 90 percent of participants complete the College Prep Academy in one semester; less than 10 percent repeat the program to further develop skills. Upon completing the Academy, participants train for specific employment, often through Austin Community College (ACC).

For the duration of the program, Capital IDEA trainees are required to meet bi-weekly in one-on-one or group sessions with a career navigator, in effect a case manager or career counselor. Career navigators lead topical group sessions to address student needs and interests. This structure provides participants with skills and a support network to help them through the program. Capital IDEA connects participants to financial literacy classes as needed. Participants are encouraged to work part-time to further develop self-sufficiency.

Capital IDEA can pay all participants' tuition, fees, and books as well as assistance for childcare costs, transportation, and any uniforms, shoes, software, etc., as required by class syllabi. Capital IDEA works in partnership with ACC faculty to identify barriers to success and provide appropriate interventions. The organization maintains partnerships with community partners to refer participants as needed to organizations such as Dress for Success, The Housing Authority, Central Texas Food Bank, LifeWorks, Foundation Communities, and Samaritan Place for interview clothes, food resources, mental health services, etc. Table 2.1 lists metrics that Capital IDEA collects annually. Tables 2.2 to 2.5 list Capital IDEA program outcome metrics for years 2014 through 2017.

Table 2.1.
Capital IDEA Data Collected Annually

Students who applied for admission
Students served
Enrollment (unduplicated students)
Enrollment by county
College preparatory academy students
College preparatory academy outcomes (retention/completion/academics)
Year to year retention
In suspense students
Forecasting graduates by industry
Graduates (degrees and certifications earned)
Career placement (all and by industry)
Ninety-day placement
Six-month placement verification
Average starting wage
Demographics of applicants, students, and completers
Average length in training
Academic data: hours attempted and completed and GPA

Source: Data provided by Capital IDEA, November 2018.

Table 2.2.
Capital IDEA 2014 Long-Term Training Program Outcomes

Outputs	Total Program Performance Results	Total Program Performance Goals	Total Program Performance Goals Achieved
Number of unduplicated clients served	772	650	119%
Number of clients who entered basic education skills training (ESL/ACC English)	15	13	115%
Number of clients who entered job training (degree or certificate-level)	757	637	119%
Number of children receiving child care	104	90	116%
Number of participants (adults) whose children receive child care	73	66	111%
Outcomes			
Percentage of clients actively seeking employment who obtained employment	75%	90%	83%
Percentage of clients obtaining employment at a wage of \$10.00/hour or higher	100%	96%	104%
Percentage of clients obtaining employment at a wage of \$15.90/hour or higher	69%	74%	93%
Percentage of clients who obtained employment two (2) quarters prior and retained employment for six (6) months	97%	96%	101%
Percentage of clients receiving child care who remain in training/employment	98%	92%	106%

Source: Data provided by Capital IDEA, November 2018.

Table 2.3.
Capital IDEA 2015 Long-Term Training Program Outcomes

Outputs	Total Program Performance Results	Total Program Performance Goals	Total Program Performance Goals Achieved
Number of unduplicated clients served	825	700	118%
Number of clients who entered basic education skills training (ESL/ACC English)	12	20	60%
Number of clients who entered job training (degree or certificate-level)	813	680	120%
Number of children receiving child care	149	100	149%
Number of participants (adults) whose children receive child care	106	88	120%
Outcomes			
Percentage of clients actively seeking employment who obtained employment	93%	90%	103%
Percentage of clients obtaining employment at a wage of \$10.00/hour or higher	100%	95%	105%
Percentage of clients obtaining employment at a wage of \$15.90/hour or higher	72%	75%	97%
Percentage of clients who obtained employment two (2) quarters prior and retained employment for six (6) months	99%	95%	104%
Percentage of clients receiving child care who remain in training/employment	96%	92%	105%

Source: Data provided by Capital IDEA, November 2018.

Table 2.4.
Capital IDEA 2016 Long-Term Training Program Outcomes

Outputs	Total Program Performance Results	Total Program Performance Goals	Total Program Performance Goals Achieved
Number of unduplicated clients served	1,201	700	172%
Number of participants entering College Prep Academy	93	50	186%
Outcomes			
Percentage of participants seeking employment who obtained employment	74%	90%	82%
Percentage of participants obtaining employment at a wage of \$12/hour or higher	96%	90%	106%
Percentage of participants obtaining employment at a wage of \$20/hour or higher	37%	51%	74%
Percentage of participants who completed the College Prep Academy	72%	90%	80%
Percentage of clients who obtained employment two (2) quarters prior and retained employment for six (6) months	82%	95%	86%

Source: Data provided by Capital IDEA, November 2018.

Table 2.5.
Capital IDEA 2017 Long-Term Training Program Outcomes

Outputs	Total Program Performance Results	Total Program Performance Goals	Total Program Performance Goals Achieved
Number of unduplicated clients served	1,106	700	158%
Number of participants entering College Prep Academy	85	50	170%
Outcomes			
Percentage of participants seeking employment who obtained employment	100%	90%	111%
Percentage of participants obtaining employment at a wage of \$12/hour or higher	100%	90%	111%
Percentage of participants obtaining employment at a wage of \$20/hour or higher	60%	51%	118%
Percentage of participants who completed the College Prep Academy	85%	90%	94%
Percentage of clients who obtained employment two (2) quarters prior and retained employment for six (6) months	84%	95%	88%

Source: Data provided by Capital IDEA, November 2018.

Tables 2.2 through 2.5 show that Capital IDEA successfully met most of its program performance goals from 2014 to 2017. Capital IDEA exceeded program goals in its outputs of number of unduplicated clients served and number of participants entering College Prep by upwards of 72 and 86 percent respectively. For program outcomes, the outcome of percentage of participants seeking employment who obtained employment was met half of the time. The goal for percentage of participants who completed the College Prep Academy was not met in either of the two years for which it was measured. The goal for percentage of participants obtaining employment at a wage of \$20/hour or higher was not met a quarter of the time.

Outside of the measurable metrics and outcomes, Capital IDEA graduates reported program outcomes such as gaining valuable social skills and new social networks necessary for employment and feeling empowered after completing the program. These outcomes are illustrated through participant interviews discussed in Chapters 4 and 5.

Goodwill Central Texas

Goodwill's mission is to enhance the dignity and quality of life of individuals and families by strengthening communities, eliminating barriers to opportunity, and helping people in need reach their full potential through learning and the power of work.

Goodwill Central Texas is a private non-profit organization founded in 1958 to help transform the lives of Central Texans through work. In 2004, Goodwill's workforce development efforts were staffed by seven people. By 2015 its workforce development initiatives included a staff of over 70 full-time employees. In 2015, Goodwill reconceived its workforce programs to integrate

services into an umbrella program that provides long-term career case management, career advancement training classes, occupational training courses, and job-training services to clients through several workforce development programs. Occupational training courses are available for healthcare, technology, business services, and skilled trades. Credentials include heating, ventilation, and air conditioning (HVAC) and various middle-skills credentials, such as Certified Nursing Assistant, Commercial Driver's License, and A+ Certification.

Goodwill recruits people at risk of homelessness, people with disabilities, people lacking education, at-risk youth, and people involved in the criminal justice system. Goodwill assists individuals through short-term training to help participants gain employment immediately following program completion, with the City of Austin's focus on individuals at risk of or experiencing homelessness. The largest population served by Goodwill is made up of people involved in the criminal justice system. In 2017, over 10,000 individuals received Goodwill services. Of those 10,000 participants, 29 percent were justice-involved, 20 percent had a disability, 22 percent were homeless, and 22 percent lacked a basic education. The remaining 5 percent were either not in a target population or did not have data collected on them. About 48 percent of 2017 participants were white, 28 percent were Black/African American, 2 percent were Asian, and 2 percent American Indian. The remaining 20 percent were classified as "other" or did not have data collected on them. About 51 percent of participants were male.

Qualifications for program participation include residence in Travis County, an income level at or below 200 percent of the federal poverty line, and an ability to work. The average pay for individuals placed into jobs by Goodwill is \$11.74 per hour across all industries and \$10.81 for participants at risk of or experiencing homelessness.

Goodwill works to balance clients' immediate need for employment with the long-term journey to self-sufficiency out of poverty. Goodwill employs Career Case Managers to connect clients to appropriate resources and develop hard and soft job skills. A case manager and placement specialist work with each participant to ensure job placements are available and any parole requirements or legal restrictions due to criminal records are met.

Career Case Managers at Goodwill can provide clients with support services to help with immediate needs when deemed appropriate. Goodwill trains participants in financial literacy to aid them along the path towards self-sufficiency, teaching clients about budgeting, opening a bank account, credit repair, and the danger of payday loans. Goodwill offers classes in digital literacy skills. Goodwill partners with community organizations such as Any Baby Can, SAFE Alliance, Integral Care Assistance Centers, the Lone Star Justice Alliance, and others to refer clients to services to meet needs from basic healthcare to transportation and interview clothes.

Table 2.6 provides a list of metrics Goodwill collects annually. Tables 2.7 to 2.10 provide a list of performance measures and results from Goodwill's Ready to Work program from 2014 through 2018.

Table 2.6.
Goodwill Data Collected Annually

Total number of new enrollments
Number of individuals obtaining employment (placements)
Enrollments into occupational training
Training completion rates
Support services/incentives provided
Average wages of participants placed
Placement in industry of training
Job retention per program
Food security*
Clothing security*
Transportation access*
Medical care access*
Housing stability*
Change in self-efficacy of participants over time*
Change in grit of participants over time*
Financial status*

Source: Data provided by Goodwill, November 2018.

* Goodwill began collecting these metrics in 2018.

Table 2.7.
Goodwill Ready to Work Performance Measures, 2014-2015

Program Metrics	Total Program Performance Goals Achieved
Number of unduplicated clients served	125%
Number of clients who obtained employment	95%

Source: Data provided by Goodwill, November 2018.

Table 2.8.
Goodwill Ready to Work Performance Measures, 2015-2016

Program Metrics	Total Program Performance Results	Total Program Performance Goals Achieved
Number of unduplicated clients served	366	104%
Number of clients who obtained employment	168	72%
Number of clients who completed occupational training	31	99%

Source: Data provided by Goodwill, November 2018.

Table 2.9.
Goodwill Ready to Work Performance Measures, 2016-2017

Program Metrics	Total Program Performance Results	Total Program Performance Goals Achieved
Number of unduplicated clients served	304	101%
Number of clients who obtained employment	185	100%
Number of clients who completed occupational training	47	102%

Source: Data provided by Goodwill, November 2018.

Table 2.10.
Goodwill Ready to Work Performance Measures, 2017-2018

Program Metrics	Total Program Performance Results	Total Program Performance Goals Achieved
Number of unduplicated clients served	300	100%
Number of clients who obtained employment	201	80%
Number of clients who completed occupational training	145	122%

Source: Data provided by Goodwill, November 2018.

Tables 2.7 to 2.10 show that Goodwill programs met most of their goals of number of unduplicated clients served and number of clients who completed occupational training. Goodwill met the last metric, number of clients who obtained employment, 25 percent of the time. However, in the years they did not meet this metric, the percentage of participants who obtained employment was 72, 80, and 95 percent.

Outside of the measurable, collected metrics, Goodwill participants reported feeling satisfied with the program and that the training was helpful.

Skillpoint Alliance

Skillpoint's mission is to provide a gateway for individuals to transform their lives through rigorous skills-based training and education.

Skillpoint Alliance is a non-profit organization founded in 1994 to provide people with a pathway to career success. The organization has 14 staff members. Through its Gateway program, Skillpoint partners with industry leaders and community organizations to provide short-term occupational skills training for vulnerable populations in Central Texas.

Current training areas include the following programs: nurse aide; medication aide; entry-level heating, ventilation, and air conditioning technician; pre-apprentice electrician; pre-apprentice plumbing; and carpentry. Skillpoint Alliance targets low-income individuals who experience barriers to employment such as being unemployed or underemployed, justice-involved people,

transitioning veterans, recovering addicts, or homeless individuals or those at risk of homelessness. In 2017, the average age of a Skillpoint graduate was 34, 45 percent were male, and 22 percent attested to homelessness. About 81 percent of their cohort were minorities, with 41 percent identifying as Hispanic and 40 percent identifying as African American.

Skillpoint screens each participant to ensure that she/he is eligible to work in their chosen career field and has a support system in place to be able to complete intense training successfully. Assessments include job readiness, career and occupational interest, and physical ability, along with math and English abilities. Skillpoint programs last from four weeks to four months depending on the training area. To be eligible, a participant must earn less than 200 percent of the federal poverty level when accepted. Participants exit the program with an industry-recognized credential, making on average \$14.14 per hour. Due to the short-term nature of this training program, participants typically do not work while receiving training.

During training participants learn technical skills, complete classroom education, and receive soft-skills training including resume-building, interviewing, conversational skills, and targeted job searching. Skillpoint Alliance supports participants by offering free training, bus passes, tools, work clothes, shoes, books, and occasionally childcare. Table 2.11 provides a comprehensive list of metrics Skillpoint Alliance collects annually. Tables 2.12 to 2.15 list some program outcome metrics collected by Skillpoint Alliance from 2014 through 2018.

Table 2.11.
Skillpoint Alliance Data Collected Annually

Program interest
Referral source
Previous student
Monthly income
Employment status
Authorize Skillpoint to text me
Caseworker
Name and contact of caseworker
Enrolled in HACA jobs plus program
Limitations
Employment (current or recent employer) details
Household income (self and spouse if applicable), amount received
Housing status
Criminal background information
Class start date
Class end date
Class outcome
Demographics (race, gender, age)

Source: Data provided by Skillpoint Alliance, November 2018.

Table 2.12.
Skillpoint Alliance 2014 Gateway Performance Measures

Outputs	Total Program Performance Results	Total Program Performance Goals	Total Program Performance Goals Achieved
Number of unduplicated participants served in Gateway Job Training	181	180	101%
Outcomes			
Percentage of participants served in Gateway who successfully completed training	83%	85%	97%
Percentage of Gateway graduates obtaining employment	74%	80%	93%

Source: Data provided by Skillpoint Alliance, November 2018.

Table 2.13.
Skillpoint Alliance 2015 Gateway Performance Measures

Outputs	Total Program Performance Results	Total Program Performance Goals	Total Program Performance Goals Achieved
Number of unduplicated participants served in Gateway Job Training	245	240	102%
Outcomes			
Percentage of participants served in Gateway who successfully completed training	83%	85%	97%
Percentage of Gateway graduates obtaining employment	74%	80%	93%

Source: Data provided by Skillpoint Alliance, November 2018.

Table 2.14.
Skillpoint Alliance 2016 Gateway Performance Measures

Outputs	Total Program Performance Results	Total Program Performance Goals	Total Program Performance Goals Achieved
Number of unduplicated clients served	238	240	99%
Outcomes			
Percentage of participants who graduate job training	78%	85%	92%
Percentage of graduates who find work within 30 days	53%	75%	70%
Percentage of employed graduates who are employed continuously for 180 days	54%	60%	89%
Percentage of employed graduates with a starting wage of at least \$12/hour	35%	60%	58%

Source: Data provided by Skillpoint Alliance, November 2018.

Table 2.15.
Skillpoint Alliance 2017 Gateway Performance Measures

Outputs	Total Program Performance Results	Total Program Performance Goals	Total Program Performance Goals Achieved
Number of unduplicated clients served	246	240	103%
Outcomes			
Percentage of participants who graduate job training	79%	85%	93%
Percentage of graduates who find work within 30 days	42%	75%	56%
Percentage of employed graduates who are employed continuously for 180 days	56%	60%	94%
Percentage of employed graduates with a starting wage of at least \$12/hour	60%	60%	100%

Source: Data provided by Skillpoint Alliance, November 2018.

Tables 2.11 to 2.15 show that Skillpoint Alliance met some of its performance goals. It mostly met the goals of number of unduplicated clients served. Its percentage of employed graduates with a starting wage of at least \$12 per hour varied from fully meeting 100 percent to meeting 58 percent, depending on the year. For the other program performance goals that were not met, many of them are not far off from meeting 100 percent.

Discussion

Capital IDEA, Goodwill, and Skillpoint Alliance capture data such as number of clients entering the programs, program retention rates, number of participants who graduate the program, number of participants who obtain employment after completing the program, and participants' wage earnings. Goodwill and Skillpoint Alliance collect more data on employment barriers, including whether participants were incarcerated and participant housing status. Starting in 2018, Goodwill began collecting annual data on participant's food security, transportation access, medical care access, change in self-efficacy, and change in grit over time, among others.

From the information the programs provided to project research staff, the training programs do not collect data such as educational attainment, reasons for not completing a program, or whether participants have received workforce development training from another organization. The organizations may capture those data, but none was provided to research staff.

Table 2.16 lists some key performance metrics from each of the three programs. Each table reports metrics on how the programs did from 2014 to 2017, as well as information on changes in metrics the programs have used. If a box in the chart contains "N/A" it means the data is not available, which usually means it was not a metric on which the program collected data.

Each of these programs established goals to meet each year, such as the number of graduates, proportion of graduates employed, and participants earning a certain income. Each of the programs met the majority of their internal goals. However, these goals do not capture if program completers are removed from poverty or measure other qualitative outcomes. For example, nurse aide graduates from Skillpoint are required to take post-tests after completing the program that may take 1-2 months. Therefore, the performance measure "number of graduates who find employment within 30 days" does not effectively capture all occupations within these training programs. Subsequent chapters show the methods we developed to evaluate each program's ability to lift its graduates out of poverty.

Table 2.16.
Summary of Key Performance Metrics

	Capital IDEA				Goodwill				Skillpoint			
	2014	2015	2016	2017	2014 -15	2015 -16	2016 -17	2017 -18	2014	2015	2016	2017
Unduplicated clients served	772	825	1201	1106	N/A	366	304	300	181	245	238	246
Percent of clients obtaining employment of \$10+/hr (\$12/hr 2016 on)	100%	100%	96%	100%	N/A	N/A	N/A	N/A/	N/A	N/A	35%	60%
Percent clients obtaining employment of \$15.90+/hr (\$20/hr 2016 on)	69%	72%	37%	60%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of clients who obtain employment	N/A	N/A	N/A	N/A	N/A	168	185	201	N/A	N/A	N/A	N/A
Number of clients who complete training	N/A	N/A	N/A	N/A	N/A	31	47	145	N/A	N/A	N/A	N/A
Percent clients who complete training	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	83%	74%	78%	79%
Percent graduates employed within 30 days	75%	93%	74%	100%	N/A	N/A	N/A	N/A	74%	40%	53%	42%

Source: Unpublished table created by research staff, January 2019.

Chapter 3. Studies that Assess Workforce Training

This chapter reviews several evaluations of adult and youth workforce training programs in the United States and other countries. Adult job-training program assessments reported that on-the-job training provided better results than other types of training. Programs with longer, more intensive training produced better employment outcomes. Youth job-training program assessments had two tendencies, based on location. U.S. youth job-training programs tended to emphasize helping youth enter college or a high school equivalency (generally known as a GED). Youth training programs outside of the U.S. were more likely to focus on preparing youth to find jobs. The professional literature contains many other evaluations of both adult and youth workforce training programs, but a full literature review of these programs is beyond the scope of this chapter and report. Table 3.1 lists the programs referred to within this chapter.

**Table 3.1.
Adult and Youth Work Force Training Program Assessments**

Assessment	Reference
Adult Work Force Training Programs	
Ray Marshall Center (conducted by)	Smith, Tara C, et al. ¹
Ray Marshall Center (conducted by)	O'Shea, Dan, et al. ²
West German Training Programs for the Unemployed	Fitzenberger, Bernd, et al. ³
Colombia Training Program Evaluation	Kulger, Adriana, et al. ⁴
German Alternative Training Schemes Assessment	Osikominu, Aderonke ⁵
Danish Active Labor Market Program Assessment	Jespersen, Svend T, et al. ⁶
1993 and 1994 German Training Program Assessment	Lechner, Michael ⁷
Chicago Job Training Partnership Act Agency	Heinrich, Carolyn ⁸
Missouri and North Carolina Welfare-to-Work Program Assessment	Dyke, Andrew, et al. ⁹
Youth Work Force Training Programs	
Career Trek (Canada)	Levine, Kathryn, et al. ¹⁰
YouthWorks (YouthBuild, Conservation Corps)	Miller, Cynthia, et al. ¹¹
Summer Youth Employment Initiative programs	Holcomb, Pamela, et al. ¹²
Urban Alliance	Theodos, Brett, et al. ¹³
JOBSTART	Hossain, Farhana, et al. ¹⁴
ChalleNGe	Hossain, Farhana, et al. ¹⁵
Year UP	Theodos, Brett, et al. ¹⁶

Source: Unpublished table created by research staff, January 2019.

Adult Job-Training Programs

The U.S. and many other countries train unemployed and underemployed adults to improve their likelihood for employment and improve their wage outcomes. This section reports on a few studies that assess those workforce training programs. Training programs tend to fall into one of three categories: on-the-job training, classroom training, or basic skills assessment and training. Different training program types have differing levels of effectiveness. One general observation is that longer-term training (more than six months) can improve marketable skills more than

short-term (less than two months) programs. The discussion below describes a few studies of workforce training effectiveness in four countries: Colombia, Denmark, Germany, and the U.S. The results are consistent: programs preparing trainees for specific jobs (such as on-the-job vocational training) provide participants greater benefits. If a person does not qualify for a higher-paid job as a result of training, job-training programs can even prolong unemployment or underemployment.

Job training is a perennial feature of the publicly funded social safety net from at least the 1930s depression to the present day. In 1964, President Lyndon B. Johnson promoted job training as part of his War on Poverty and the associated Great Society initiative by creating the Office of Economic Opportunity, the Economic Opportunity Act, and the Job Corps to assist state and local governments to start their own job-training programs.¹⁷ Federal funding for workforce development varied over time, with a high of \$24 billion allocated to “workforce training and employment services” in 1970, after which funding began to fall to its current level of approximately \$5 billion annually.¹⁸ The Office of Economic Opportunity was abolished in 1981. In 1996 President Bill Clinton authorized the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), which imposed work requirements on individuals receiving government assistance in an effort to enable people off welfare and into the job market.¹⁹ Public dollars are used to support these training programs, as they are perceived as valuable to the public. Thus, Congress continues to invest in them.

Studies that evaluate the consequences of adult job training and quantify economic and social returns from workforce training investments identify characteristics of successful programs. One distinction among programs is length: workforce training can be divided into so-called short-term (six months or less) or so-called long term (up to two years) programs. Studies may use random assignment of individuals to program and control groups, so that both groups can then be tracked over time to assess program or intervention effects. Random assignment is difficult when assessing job-training programs because such a process could exclude some people from possible job training or apprenticeship benefits. Another method that has proved useful is matching. Within programs, “participants are compared with a matched comparison population of individuals who have not participated in the...program but who are observationally equivalent across a range of demographic characteristics, social welfare benefit receipt and labor market experiences.”²⁰

Researchers used this method in a review of the impact of “Adult and Dislocated Worker programs under the Workforce Investment Act (WIA),” which used data from 12 states and covered approximately 160,000 WIA participants and almost 3 million people in comparison groups.²¹ The researchers state that “[r]esearch on matching methods...suggests that the research design and data for this evaluation satisfy basic criteria essential for substantially reducing bias in the nonexperimental identification of program impacts,” without the need for random samples.²²

The Ray Marshall Center has compared outcomes for training participants versus nonparticipants²³ through the use of numerous demographic indicators and wages by systematically matching individuals in quasi-experimental and comparison groups. Individuals who received low-intensity job search and placement services through the Texas Workforce

Commission can be matched to individuals who completed intensive short-, or medium-, or long-term job training. RMC then used data collected from these two groups to calculate economic return on investment. For example, the RMC estimated costs, fringe benefits, and employment stability over time, and reported in 2011 that Capital IDEA participants' benefits outweighed costs.²⁴ On average, participants experienced a net benefit of \$1,511 after accounting for forgone earnings.²⁵ A 2016 evaluation of the three Travis County workforce programs participating in this study reported varied yet positive increases in employment and earnings.²⁶

A Colombian vocational training study stated that "vocational training and formal education are complementary investments and there are spillover effects for family members."²⁷ The study discusses how a parent's training can improve other family members' lives, as relatives tend to share information and resources. If any individual is trained, family members are likely to benefit from any knowledge or wage increases. The study's authors reported that participants' family members were 35 percent more likely to enroll and 38 percent more likely to persist in post-secondary education programs than the family members of those who did not participate in training.²⁸ Training participants were 31 percent more likely to enroll in post-secondary education between three and eight years after completing training. The study concluded that job-training program evaluations that disregard such training spillover effects on family life underestimate the social return of training programs.²⁹ Interviews of individual program graduates can enable research staff to evaluate spillover effects reported through interview narratives.

A 2008 study of Danish labor market programs evaluated public and private on-the-job training programs, classroom training, and remedial education programs.³⁰ In Denmark's private job training, program participants are employed by a private company and receive the same wages as any comparable worker; the government may subsidize wages. In a public job-training program, participants worked at a public institution. Classroom training involved study without field practice. Researchers reported that on-the-job programs initially led to reduced employment as training participants were less likely to seek employment during training versus others on the job market. The employment effect turned positive as the length of the training programs expanded: employment rates rose five percentage points after five quarters. On-the-job training participants increased incomes, with an earnings gain of 8.9 percent for participants in the private job-training program.³¹ Public training post-program employment rates increased but returned to zero (no net employment) over time.

Danish researchers reported that classroom training graduates' salaries increased less than those for on-the-job training graduates. Some classroom training programs lasted an average of 28 weeks while others lasted up to two years, with a "substantial number of different courses available."³² Although researchers found that classroom programs had an initial negative effect on employment, graduates' employment rates rose afterwards. Three years after obtaining training, a program's effect on employment earnings was above zero, although there were no significant earnings outcome differences.³³ The researchers also reviewed "residual programs" that include basic skills assessment, employment training for less-able unemployed individuals, entrepreneurship subsidies, remedial education, and job search assistance.³⁴ They found these programs had a "severe locking-in" effect, but the effects "turn[ed] positive after 3–4 years."³⁵ The Danish researchers concluded that on-the-job training yields a net social benefit, with the

largest benefit coming from private on-the-job training. Public training offered returns to the participants “but around 90 percent of the earnings gain [was] lost due to wage subsidies and deadweight losses associated with the subsidies.”³⁶ Classroom training created a deficit because of the direct costs for operating the program, and residual programs created a deficit for participants due to lost wages.³⁷

To determine the net social return of the programs, the Danish researchers subtracted “the programmes’ discounted costs from their discounted stream of benefits.” On the benefits side, the researchers estimated how training changed participants’ annual earnings and “the value of output produced during participation in job training.”³⁸ On the cost side, the researchers took into account “direct operation costs of the programmes, which include purchase of education materials, teacher time etc. related to classroom training and administration costs related to each programme.”³⁹ In calculating the costs and benefits, the first element “of the net social benefits is the present discounted value of the estimated earnings gain...Next is the reduced deadweight loss of taxation resulting from the reduced income transfers in the form of unemployment insurance payments and various means tested benefits following from higher employment.”⁴⁰

To calculate the costs, the researchers subtract from the gains “the unit costs of administration and the unit costs of classroom training corrected for marginal cost of public funds...[and they] adjust for the fact that the earnings measure behind the earnings effects...includes labour income during participation in job training.... [T]o get a correct account of a persons' productivity [researchers] have to subtract the subsidy from the earnings effects.... [T]he resulting value includes the deadweight loss of taxation from financing the subsidies.”⁴¹ These components are combined to provide a net return of the programs.

One German training program evaluation compared field training, short-term training, and long-term training. Field training (otherwise known as practice firms) “simulate[s] working in a specific field of [sic] profession.”⁴² Short-term training consists of “courses that provide a general adjustment of working skills.”⁴³ Long-term training is comparable to short training, but with a longer duration. Re-training enables participants to work in a different profession than their current area by “awarding new vocational degrees.”⁴⁴ The German researchers “investigate[d] the long-run effects of the training programs on earnings (and employment) by estimating the effects on annual earnings in the seventh year after the program start.”⁴⁵ Programs other than the practice firm increased participant earnings. For practice firms, researchers could not exclude the possibility that the program had zero effects. For the other three programs, they found “significant positive effects.” For example, the lower bound on the median effect for re-training and long training is about 3,700 Euros annually, which is almost 20 percent of the median observed annual earnings [of 19,000 Euros]” and “the average effects are somewhat smaller but still sizeable.”⁴⁶ The German researchers reported programs that prepare participants for jobs (vocational degrees) and classroom training raised participants’ earning potential.⁴⁷

Heinrich (1998) evaluated Chicago-based on-the-job training that was part of the Job Training Partnership Act (JTPA) providing a “comprehensive approach that sought to customize employment and training services for participants and provide intensive case management and supportive services.”⁴⁸ The program included four categories of assistance: on-the-job training, vocational training, remedial education, and job search assistance.⁴⁹ She reported that on-the-job

training participants had significantly higher earnings gains compared to participants in the other options: their gains were “more than \$9,000 higher than the next best alternative, which [was] vocational training.”⁵⁰ Heinrich found that “individuals who participated earned, on average, \$3,686 more over two years than if they had not participated.”⁵¹ Nonparticipants had a quarterly employment rate of approximately 30 percent, and the rate for program participants was from 10 to 20 percent higher.⁵² Heinrich reported that employment rates for participants declined over time after the program terminated.⁵³ Her evaluation supports the hypothesis that on-the-job training provides the best returns for job training investment.

Researchers Dyke, Heinrich, Meuser, and Troske evaluated the effectiveness of welfare-to-work programs based on women who began receiving welfare between 1997 and 1999 in Missouri and North Carolina.⁵⁴ Researchers divided training programs into a number of categories including individual assessment, job readiness or job search activities, and intensive training, like basic education, vocational training, and other types.⁵⁵ When women began training, their incomes dipped initially, but then increased over time.⁵⁶ Researchers found that it usually took longer for intensive training participants to see an income increase compared to participants in other training programs. They posited that this effect could be related to the length of training or because women needed to spend time in the labor market before reaping training benefits.⁵⁷ Researchers reported that women who participated in more intensive training saw a more positive impact on earnings, compared to those who participated in assessment, job readiness, or search activities, which were “designed to more quickly move workers back into the labor market.”⁵⁸ Participants in vocational and technical training or post-secondary education provided a large share of the positive effects found in intensive training and formed a large portion of the intensive training programs.⁵⁹ Researchers reported participants received an estimated \$800 increase in annual income.⁶⁰

This City of Austin study does not compare private and public on-the-job training but it does report the effectiveness of programs that educate and prepare participants for jobs through vocational and technical training. These evaluations consistently find that more intensive adult training programs, on-the-job training programs, or programs preparing trainees for specific jobs (such as vocational training) provide the greatest benefit to participants. The next section reports on research evaluating youth training for employment.

Youth Training Program Evaluations

When the issue of poverty is discussed, children are normally not at the forefront of the conversation. Children are affected by poverty just as much as adults, especially when seeking to achieve at levels comparable to middle- or upper-class children.⁶¹ Children living in poverty may experience difficulty meeting academic standards, transitioning between grades, and graduating from high school. Some analysts argue that weak performance by poor children reflects limited resources, sub-par teachers or staff, outdated textbooks, a lack of access to computers, and other structural factors.⁶² Low academic performance by poor children may perpetuate the idea that children who are not given the opportunity to thrive in school will grow up to become poor adults in their post-graduation lives; in other words, poor adults raise poor children and the cycle continues. Over the years, a number of youth career and technical education programs in the U.S.

and other nations have been established to provide students with the opportunity to succeed in school and as post-graduates.

Work-based learning can facilitate the school-to-work transition for youth under the age of 18, reduce the effects of youth unemployment, and provide students with opportunities directly connected to employers and jobs.⁶³ In 2004, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) explained that work-based learning (also referred to as Career and Technical Education, or CTE) is an important step towards employment, self-employment, entrepreneurship development, and increased productivity.⁶⁴ CTE programs can enhance human capital, contribute to economic growth and social development, offer second chances to dropouts, and combat marginalization.⁶⁵ Strong CTE programs correlate with increasing high school graduation rates. For example, some analysts argue that strong CTE programs help schools in Austria, Germany, and Switzerland achieve graduation rates above 90 percent.⁶⁶

Germany is well-known for embedded and widely respected CTE programs that connect students to a wide range of professions that adapt to the changing needs of the German labor market.⁶⁷ The programs were developed to integrate work-based and school-based learning to prepare students for the labor market transition. German employers and social partners are engaged in student vocational training through school curriculum, workplace training supervision, and development of assessment processes.⁶⁸ While German governmental agencies and organizations support CTE programs financially, German CTE programs also have limitations. CTE participants may leave school with weak academic skills.⁶⁹ Career guidance during and after program graduation is variable, as no single agency provides career information and services to students.⁷⁰

Israeli CTE programs are highly valued by local workers and organizations.⁷¹ For example, in 2017, one-third of upper-secondary students studied in “technical tracks” that focused on topics that range from engineering to health and hospitality.⁷² About 3 percent of upper-secondary students (some of whom could be drop-outs) partake in youth apprenticeships.⁷³ Most youth vocational training is provided through non-profit networks that create opportunities to partake in short work placements with employers. In 2017, close to 9,000 students participated in government-subsidized unpaid placement opportunities.⁷⁴

Canada has developed programs for fifth and sixth graders to orientate themselves towards different careers. For example, Career Trek is a program that exposes at-risk, inner-city youth to a variety of different careers.⁷⁵ Career Trek’s founder was aware of the correlation between low educational attainment and poverty risk for children in poor families with low educational attainment: poor children are less likely to attend college and more likely to live in poverty as adults.⁷⁶ Career Trek is a 20-week program in which students go through four to eight career modules held at local colleges for a combined total of 95 programming hours that inform students about different careers, develop team building and problem-solving skills, and create a support network among peers.⁷⁷

Career Trek participants can describe educational pathways to achieve their career goals, including those that require a college education, such as scientist, animator, nurse, veterinarian, teacher, or social worker, to name only a few.⁷⁸ Researchers reported that introducing children to career paths from a young age can help focus their path to graduation and onto college.⁷⁹ Career

Trek reinforces the connection between graduating from high school and moving on to college; it seeks to strengthen relationships among participants and their families as a means to reduce a child's future risk of living in poverty.

Compared to the countries discussed above, CTE programs are not as integrated into American society, as there is a preconceived notion in the U.S. that it is more prestigious for students to study at a university than prepare for a blue-collar job.⁸⁰ Some analysts perceive vocational knowledge as “low-status knowledge.”⁸¹ Although CTE programs can prepare youth for a specific career, in the U.S., some high schools rely on CTE programs to help young people explore careers so that they will not drop out of school.⁸² In practice, career training in the U.S. may be more likely to be “imposed” on youth from poor communities, which leads to a perception that CTE programs benefit disadvantaged poor, working-class, and minority students.⁸³

While attending a university may seem more “prestigious,” it takes longer for students to receive fruits from their labor.⁸⁴ Many American high school students pursue employment that does not require a baccalaureate degree.⁸⁵ A 2012 study of high school graduates in the class of 2004 showed that CTE students were 12 percent less likely to get a postsecondary degree or certificate following graduation. CTE students were 4 percent more likely to get a graduate level degree or certificate.⁸⁶ Within two years, only 10 percent of CTE students were enrolled in a postsecondary institution in a field related to their high school CTE program. Analysts notes that CTE can provide youth and adults with an “insurance policy” for those more likely to benefit from vocational training than a university education.⁸⁷

Over the years, American CTE programs have faced challenges, including not meeting academic and technical standards necessary to enable participants to enter postsecondary programs or meet community college prerequisites. Some CTE programs may not provide sufficient soft-skill training or fail to connect students with employers other than those engaged in the development of the program or the assessment of student skills.⁸⁸

Some analysts argue that CTE programs reproduce class, gender, and racial disparities.⁸⁹ In the 1930s, Congress articulated two vocational training goals: create programs that reflect the local race and gender labor market segmentation and reduce unemployment by matching workers to available blue-collar jobs.⁹⁰ Some analysts argue that vocational training programs have not improved conditions for non-academically inclined students, many of whom are ethnic minorities, have fewer opportunities compared to more advantaged children,⁹¹ and who may believe that they are neither suited for nor capable of success in college.⁹² Because of this perception of CTE as a barrier to self-improvement, some analysts advocate eliminating vocational study altogether and prepare all students for college, which does not account for diverse individual motivations, different skills, and uneven aptitudes.⁹³

Some U.S. youth programs do improve youth career paths and encourage college enrollment. For example, YouthWorks trains high school students all over the U.S. through two main programs: YouthBuild and Conservation Corps. YouthWorks provides students with the opportunity to complete their education and gain vocational training while serving their communities. YouthBuild consists of four service categories: education, vocational training, development, and supportive services, which focus on basic skills and remedial education to enable students to

complete a high school diploma or GED.⁹⁴ The target demographic of the organization is youth ages 17 to 24 whose families are at or below 200 percent of the Federal Poverty Income Guideline (80 percent of the Austin Family Income Level).⁹⁵ YouthBuild provides vocational training in the areas of construction, nursing, commercial driving, and information technology. Development services include leadership training and community service. Supportive services involve counseling, case management, life-skills training, workforce preparation, follow-up services, and help with transportation, child care, and housing.

In 2016, Miller et al. reported in an evaluation of 75 YouthBuild programs across the nation that 63 percent of YouthBuild participants were black and 15 percent were Hispanic.⁹⁶ They state that those programs are designed to help youth transition into postsecondary education because over half of YouthBuild participants have less than a 12th-grade education prior to participation.⁹⁷ While Youth Build graduates rated highly vocational training, counseling, and leadership training, they were less satisfied with services received after leaving the program, such as job-finding.⁹⁸ YouthBuild participants were 14 percent more likely to obtain a GED than persons in a control group. Within 30 months following graduation, 22 percent of participants reported having enrolled in a two-year community college.⁹⁹ O'Shea et al. reported in a separate evaluation of Travis County, Texas training programs that four years following graduation, 49.8 percent of 2011-2015 YouthWorks graduates were employed and making on average \$1,000 more per quarter compared to pre-program earnings.¹⁰⁰ Participants were significantly more likely to be making over \$10 an hour compared to a control group. While wages increased following graduation from the program, only about half the graduates were employed within four years following graduation.¹⁰¹

The Summer Youth Employment Initiative (SYEI), founded as part of the Workforce Investment Act, trains youth with work readiness skills, work-based learning experiences, and connections to area employers.¹⁰² Following graduation from the program, graduates are transferred to post-SYEI programs and placed in a work experience to develop hard and soft workplace skills and cultivate employer-worker relationships. During this time, youth normally earned minimum wages with the potential to receive an increase following a successful mid-program performance review.¹⁰³ Due to the short length of the program, SYEI was limited in the number of ways it could address students' needs and enhance the value of their educational experiences. The duration and intensity of SYEI programs and the variety of work readiness activities varied depending on the work, from brief sessions and orientations to extensive portfolios that involved 25-hour courses.¹⁰⁴ SYEI sites allowed employers to design work readiness activities, though there were no standard guidelines or curricula.¹⁰⁵ For example, a Summer Career Exploration Program in Philadelphia provided participants with a summer job in the private sector, pre-employment training, and a college student mentor. An evaluation reported that participation improved behavior and school achievement, but did not affect high school graduation rates, college enrollment, attitudes towards work and school, or self-efficacy.¹⁰⁶

Urban Alliance (UA) provides high school seniors with referrals to local employers to help them achieve future success in college, the job market, and everyday life. UA targets high school seniors with a grade point average of between 2.0 and 3.0 and who may be at risk of not transitioning to college or meaningful work. The program provides students with a paid internship, soft and hard skills through job training for four to six weeks along with Friday

workshops, coaching and mentoring, and alumni services that include coaching, alumni events, and additional paid summer internship opportunities.¹⁰⁷ A 2017 evaluation reported that 90 percent of participants were African American and nearly half were living in neighborhoods where the poverty rate was over 25 percent.¹⁰⁸ Almost all participants lived in neighborhoods that were at least 75 percent minority.¹⁰⁹ About 93 percent of the participants went to schools where many of the students were eligible for free/reduced-price lunches.¹¹⁰

UA evaluators assessed job preparation by looking at participants' comfort with the job application process and acquisition of hard and soft skills. In 2017, researchers reported that UA programs did not influence job application comfort but increased both hard and soft skills. Youth who participated in UA were 6 percent more likely to attend college compared to a control group.¹¹¹ Control group youth were more likely to attend a two-year college and were 9 percent less likely to attend a four-year college than program group youth.

JOBSTART is a program developed from the Job Training Partnership Act of 1982 that provides self-paced instruction in basic academic skills, occupational training in "high-demand" jobs, job placement assistance, transportation assistance, and need-based financial incentives.¹¹² A 2015 evaluation of the program reported a reduction in high school dropouts and an increase in earned GEDs, but there were marginal impacts on labor market outcomes within a four-year follow-up period.¹¹³ Out of the 13 JOBSTART sites surveyed, only one program reported wage increases, though the results could not be reproduced in following years.¹¹⁴

ChalleNGe is a youth employment program that was developed by the National Guard and the U.S. Department of Defense to intervene with youth between the ages of 16 and 18 who had dropped out of school, were unemployed, drug-free, and were not involved in the justice system.¹¹⁵ During a 17-month program, participants engage in teamwork and physical fitness training, job skills training, and academic skills training with the end goal of completing a GED. Following the first two phases of training, participants transition to employment, further education, or military service.¹¹⁶ The program also provides a structured mentoring component. Researchers reported from a three-year survey that began in 2005 that about 72 percent of the program group had obtained a high school diploma or GED compared to 56 percent of the control group.¹¹⁷ In the year before the evaluation, ChalleNGe participants earned on average \$13,515 during that period, over \$2,200 more than a control group average; they were also more likely to be employed at the time of the evaluation.¹¹⁸ At the time of the evaluation, 57.8 percent of the program group were working, with an average weekly wage of \$240.¹¹⁹ Interviews of 24 participants found that the program had led to positive changes in participants' attitudes, expectations, and self-confidence, yet many struggled to maintain their momentum after completing the program.¹²⁰

Year Up is a year-long program that provides participants with job training, a paid internship, mentoring and counseling, and job search or college application assistance. The program has had a positive impact on the wages earned by graduates. On the other hand, participants are less likely to attend college.¹²¹

Conclusions

Many of the programs listed above focus on enabling students to attend college, rather than preparing them for the workforce following graduation. Vocational youth training produces some beneficial outcomes, including early exposure to a variety of careers and information about college that can lead to better outcomes following graduation.¹²² Work- and industry-based training programs enhance youth employment outcomes.¹²³ Programs that produce more successful participant results are often lengthy and full-time commitments, as seen with the ChalleNGe program.¹²⁴ Programs that provide paid internships show that disadvantaged youth can be successful when wages are offered.

Poverty, unemployment, and youth training all have local ramifications. In 2014, 15 percent of Austin's children were living in poverty.¹²⁵ In 2016, Austin's poverty rate was 16.7 percent, 4 percent more than the U.S. national rate.¹²⁶ As stated earlier, these children face struggles not only at home but at school. CTE programs could provide Austin children living in poverty a way to succeed in school and post-graduation if they would provide Austin's children with tools and skills to compete in the labor market and connect youth to job opportunities and work-based training.

To better understand how work-based training programs can affect Austin residents, the Lyndon B. Johnson School of Public Affairs and the Ray Marshall Center for the Study of Human Resources have evaluated three local work-based training companies. The methods of the study and findings are described in subsequent chapters.

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Chapter 4. How Employers Assess Workforce Training Program Graduates

Employers are key workforce training stakeholders because participants are trained to meet industry and employer expectations. Research staff developed questions for employers to identify training outcomes of importance to employers (see Appendix B in the online appendices for the employer interview questions). Upon developing questions and vetting them with each training provider, research staff asked each organization to contact industry partners that employ a large number of their program graduates. Research staff selected employers based on industry diversity and number of graduates hired so as to collect information from employers with significant experience hiring workforce program graduates.

Research staff conducted interviews either in person or via telephone for an average of 45 minutes. Research staff interviewed 11 employer partners across the three workforce development programs—Capital IDEA, Goodwill Central Texas, and Skillpoint Alliance—ranging in industry from technology to electrical service and healthcare. Employers stated that anywhere from 2 to 25 percent of their new hires were graduates of the partnered workforce development program. Variation in these percentages reflected the number of people each employer hired and the number of graduates available from the workforce program partner. Several employers expressed preference to hire more program graduates. Any information below not specifically cited is from one of the 11 confidential employer interviews. (See Appendix I in the online appendices for summaries of interview comments.)

Employer Interviews

Employers reported that graduates of workforce development programs are able to “hit the ground running.”¹ In cases where a training program is based at an employer’s facility, employers reported that trainees integrated into the work environment and performed well on the job. All employers expressed an appreciation for the tenacity or “grit” that program graduates displayed. One employer stated, “it’s a second chance for a lot of people and they are motivated and excited for the opportunity.”²

Employers across industries were unable to state whether workforce development program graduates advanced more quickly than peers who did not participate in training. Many employers had examples of specific graduates who exceeded expectations and advanced quickly. Employers also discussed difficulties that some program graduates experience in securing transportation, childcare, or other services to ensure they are able to work consistently.

Seventy-five percent of employers indicated that they saved money and/or time usually spent on recruiting new employees by working through a partnered training organization. One employer stated that they pay Capital IDEA a fee for each employee hired and retained at the organization. The employer believed that the fee, though substantial for the number of trainees employed, is less than they would pay for employee recruitment if Capital IDEA did not exist.

Employers in healthcare, electrical, and HVAC fields indicated that their hiring processes would be more difficult if the partner organization did not exist. Healthcare employers expressed that they already struggle to hire enough certified nurse assistants (CNAs), even with the workforce development organization. Electrical and HVAC service companies reported that they are having a difficult time recruiting qualified employees, especially during summer months. One electrical employer stated that without Skillpoint Alliance he would have to develop innovative ways to recruit employees, which would create a new financial burden for his business.³

The most common concern of employers across industries was that trainees come to work with more customer service skills. There is some level of customer service interaction necessary in every represented industry. CNAs and surgical technicians interact with patients all day every day. For HVAC installers and electricians, customer service skills may not be an immediate requirement; however, as employees advance and are able to take on jobs independently, they interact more frequently with clients. Several employers reported that good customer service skills can help employees overcome limited experience or technical skills from limited-term training. For example, in the electrical industry employers asked that trainees gain more experience bending pipe and running wire; one employer indicated that pipe-bending is a skill he tests during prospective employee interviews. In healthcare there was a request for more training in basic computer skills. Many healthcare providers use what is called point-click-care, a computerized system for charting. As it is a system that CNAs use multiple times per day, it can be a struggle for people with limited computer literacy.

Each employer had its own key performance indicators to assess employees. The time period and number of evaluations varied, but typically consisted of evaluations after 90 days and one year. While employers reported that their specific key performance indicators are appropriate tests of employee job performance, they also suggested attendance, retention, and promotion as metrics to determine individual employee success.

The final question posed to employers was to imagine themselves in the position of a city council member and suggest metrics to determine if workforce development programs are successful in enabling a trainee to work out of poverty. The top two performance measure responses were income level before and after training and each trainee's personal narrative. Many employers suggested that city council members attend a job-training graduation ceremony to see individuals' accomplishments. Other employers recommended creating a testimonial video to bring human stories to city council. The majority of employers suggested the value of longitudinal data to follow graduates for a minimum of five years post-graduation to assess before and after status in wages, job promotion, industry retention or tenure, and trainees' individual life trajectory. Two employers also noted the importance of considering race, gender, and pre-existing challenges, such as a criminal record, when evaluating long-term results.

Employers reported that they value Austin's investment in workforce development programs due to the pool of quality professionals these programs add to the local workforce. From the employers' perspective, training outcomes and workforce development benefit employers directly. Research staff developed questions to ask training participants about their experiences, as described in the following chapter.

¹ Interview with Skillpoint Alliance electrical industry partner, April 6, 2018.

² Interview with Skillpoint Alliance health industry partner, March 28, 2018.

³ Interview with Skillpoint Alliance electrical industry partner, April 6, 2018.

Chapter 5. Participants’ Self-Assessment of Training Benefits

This chapter outlines the methodology and findings from interviews conducted by research staff with graduates of Capital IDEA, Goodwill Central Texas, and Skillpoint Alliance. Research staff used information from employer interviews as well as hypothetical personas to develop interview questions for program graduates. They then created an outreach strategy to contact training participants and conduct interviews. Research staff recorded and coded interview data presented later in this chapter. Based on interview findings, graduates of all three programs experienced meaningful life changes due to their training experience including increased earnings, decreased stress levels, improved mental and physical health, and second-generation impacts relating to the expectations and inspiration of trainees’ children.

Participant Interview Methods

Research staff created hypothetical “personas” for workforce participants as a way to estimate potential training benefits and cost. Each persona is a hypothetical person designed to reflect patterns in wages and quality of life. Research staff then used data from these personas to develop interview materials, which were used throughout the interview process. Research staff based these personas on 1) publicly available data from Capital IDEA, Goodwill, and Skillpoint Alliance; 2) publicly available information on social services to estimate the scope of Texas’ and Austin’s social “safety net.” Research staff used publicly available Travis County court and imprisonment cost data to estimate judicial and incarceration costs.

Workforce training programs seek to enable graduates to work from poverty to self-reliance. In Austin, for example, a single mother with two or more children and no income may be eligible for a number of social programs, such as Medicaid, Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Program for Women Infants and Children (WIC), and Headstart.¹ Table 5.1 lists key summary statistics for six hypothetical personas based on the previously mentioned publicly sourced data.

Table 5.1.
Summary Statistics for Personas

Persona Name	Entry Annual Wage	Exit Annual Wage	Dollar Amount Increase	Percent Increase	Annual Decreased Cost to Government
Ana Gonzalez	\$10,088.00	\$13,291.20	3,203.20	31.75%	0
James Smith	N/A	\$40,913.30	\$40,913.30	-	0
Sally Walker	\$18,720.00	\$25,396.80	\$6,676.8	35.67%	\$12,010
Connie Holston	\$24,960.00	\$31,200.00	\$6,240	25%	0
Justin Blade	\$18,720.00	\$45,905.60	\$27,185.60	145%	\$11,243
Bradley Bonaparte	\$31,200.00	\$34,840.00	\$3,640.00	11.67%	\$2,280

Source: Unpublished table developed by research staff, October 2018.

The personas enabled research staff to visualize characteristics that may be missed by relying solely on economic data. These provided a basis to develop questions for job-training

participants to evaluate social returns. In some cases, a persona’s new income led to a measurable change in received benefits. The range in income increase varies based on the hypothetical entry income. Excluding upper and lower outliers, the average percent increase in hypothetical income after training was about 104.5 percent. These numbers alone do not provide intelligence as to whether the personas’ personal goals were achieved through job training, as income changes do not describe auxiliary life changes. The complete personas (see Appendix H in the online appendices) describe lifestyle changes beyond numerical figures. For example, “Ana” wanted to move out of her mother’s house, but didn’t feel like she made enough money to do so. “James,” because of his criminal record, went from living on his sister’s couch to being employed with his own apartment.

Upon completing the exercise, research staff worked with each of the three job-training organizations and the Ray Marshall Center to create a list of 35 interview questions and a two-page survey for participant outreach. Appendices C and D in the online appendices list the qualitative questions and the survey, respectively. Research staff then drafted an introductory email discussing the study with a link to an electronic survey to invite training program graduates to sign-up voluntarily for in-person interviews. Each partner organization provided past participant contact lists, typically a list of telephone numbers and/or email addresses of the participants when they were active in the training programs. In all, research staff received 1,229 names from Capital IDEA, 57 names from Goodwill Central Texas, and 479 names from Skillpoint Alliance. Capital IDEA had the largest record of graduates, with contact information dating back to 1999. Due to Goodwill’s limited client data-sharing arrangement, its staff possessed participant information only for years 2016 through 2018.

Each of the six research staff on the interview team contacted 35 different graduates from Capital IDEA and Skillpoint Alliance every week during a 10-week period. Table 5.2 lists the contact steps.

Table 5.2.
Participant Interview Contact Process

Step One	Each training organization sends out an introductory email to graduates informing them of upcoming UT outreach.
Step Two	Research staff send an email to each participant describing the research; there is an electronic link for any participants to sign-up for an in-person interview.
Step Three	Research staff send a follow-up email to any unresponsive graduate within three days of the original email.
Step Four	Research staff call each program graduate who has not responded via email within one week of sending follow-up emails.
Step Five	Repeat steps one through four for the next set of program graduates.

Source: Unpublished table developed by research staff, October 2018.

When a graduate responded, research staff scheduled an in-person interview within two weeks of the response date. If an in-person interview was not possible, a phone interview was offered as a substitute. Following an initial round of approximately 20 interviews, research staff met to discuss preliminary results. Research staff identified six emerging interview themes: workforce integration, resource connections, inspired children, connections to employer, social connections, and grit. These codes are described in the table below.

Table 5.3.
Thematic Codes from Interview Data

Workforce integration	A person previously outside of the formal labor market due to criminal justice, military service or immigration searched for and obtained employment. Examples of the employment opportunity created included participants who had been involved in the criminal justice system, former military, and immigrants.
Resource connection	Job-training programs connected students to resources such as resume and interview preparation and social support services to help them succeed in the labor market.
Inspired children	Participants' children received enhanced educational experiences and or goals due to parents participating in workforce training.
Connection to employer	Job-training programs connected graduates directly to employers that could hire them.
Grit	Job-training programs influenced students' ability to persevere and achieve personal goals.

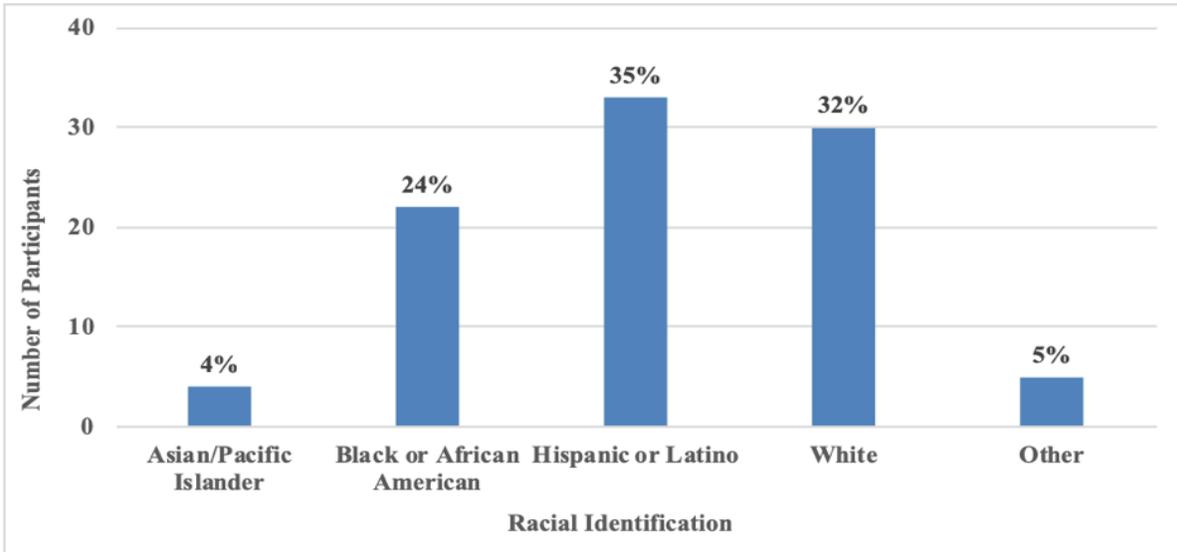
Source: Unpublished table developed by research staff, October 2018.

Research staff used these themes as codes with which to organize and analyze interview and survey data. Research staff coded each interview and survey for these themes and uploaded the information into a database. The coding allowed research staff to organize data based on themes and to analyze how these themes relate to job-training program effectiveness. This thematic coding allowed research staff to identify how Capital IDEA, Skillpoint Alliance, and Goodwill training programs affect participants. By using this coding system, research staff were able to identify trends among the different training programs and consolidate data efficiently in Excel.

Research staff then summarized the opinions and experiences of every interviewed graduate (see Appendix A in the online appendices). To preserve participants' confidentiality and anonymity, each write-up is labeled by the researcher's initials, the training organization, and order of the interview (2nd, 3rd, etc.) by that project member. The identity of every interviewee remains confidential.

As of December 8, 2018, research staff contacted 1,765 workforce graduates from these programs. Out of the 1,765 graduates, 96 participated in interviews, for a completion rate of 5.4 percent. Capital IDEA interviewees were the most responsive to initial outreach and received the highest number of interviews by research staff. Skillpoint Alliance interviewees had the second-highest interview rate, followed by Goodwill graduates. Interviewees identified with a range of different racial and ethnic groups and ages. Interviewees reported their training in a variety of certification programs, from CNA to HVAC. The tables below report percentages of completed interviews by racial and/or ethnic group (Figure 5.1), age and gender group (Figures 5.2 and 5.3), and training program certification (Figure 5.4). Hispanic and Latino were the largest group of interviewees by ethnicity. The largest group by age was between 26 and 34 years old (Figure 5.2). More women were interviewed than men (Figure 5.3). The majority of interviewees trained for a career in allied health, which is reflective of the high percentage of allied health training each training organization reported (see Figure 5.4).

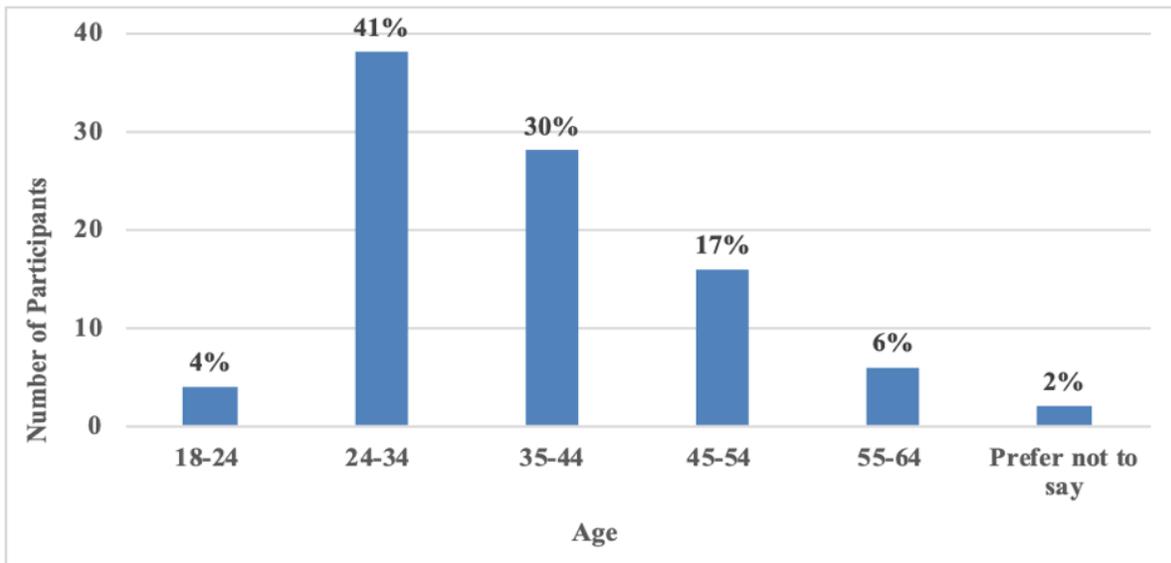
Figure 5.1.
Interview Participants by Race/Ethnicity



N = 96

Source: Unpublished figure developed by research staff, October 2018.

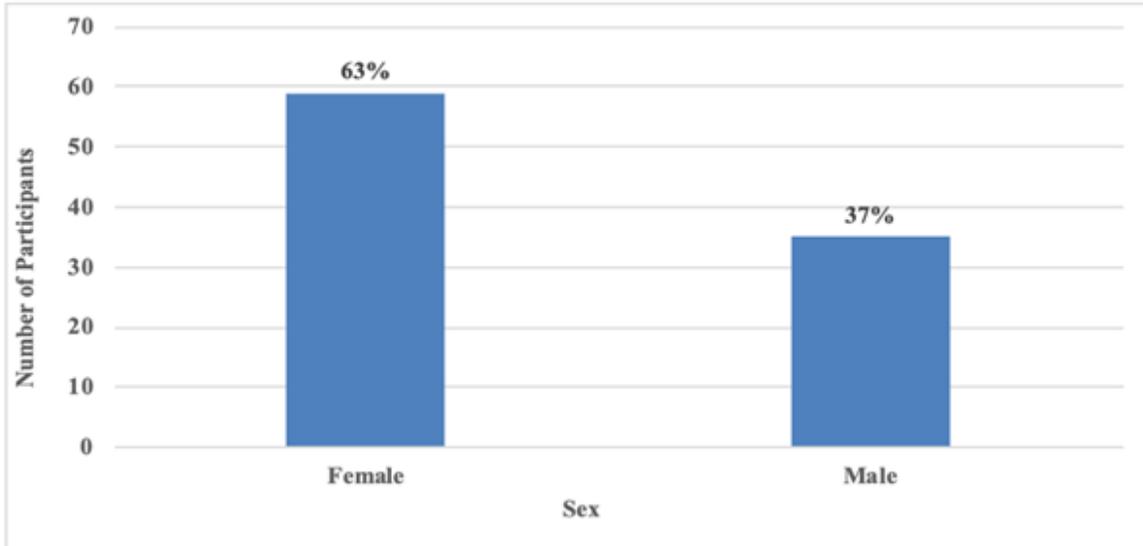
Figure 5.2.
Interview Participants by Age



N = 94, omitted 2 responses (data not provided)

Source: Unpublished figure developed by research staff, October 2018.

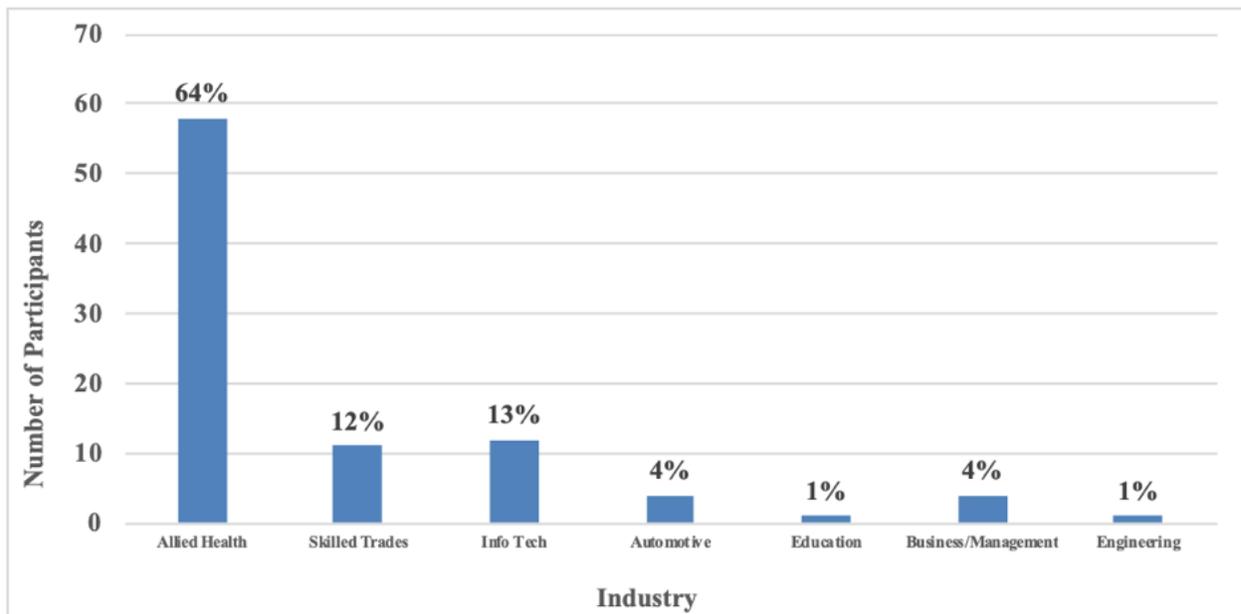
Figure 5.3.
Interview Participants by Gender



N = 96

Source: Unpublished figure developed by research staff, October 2018.

Figure 5.4.
Interview Participants by Industry Certification



N = 93, omitted 3 responses (data not provided)

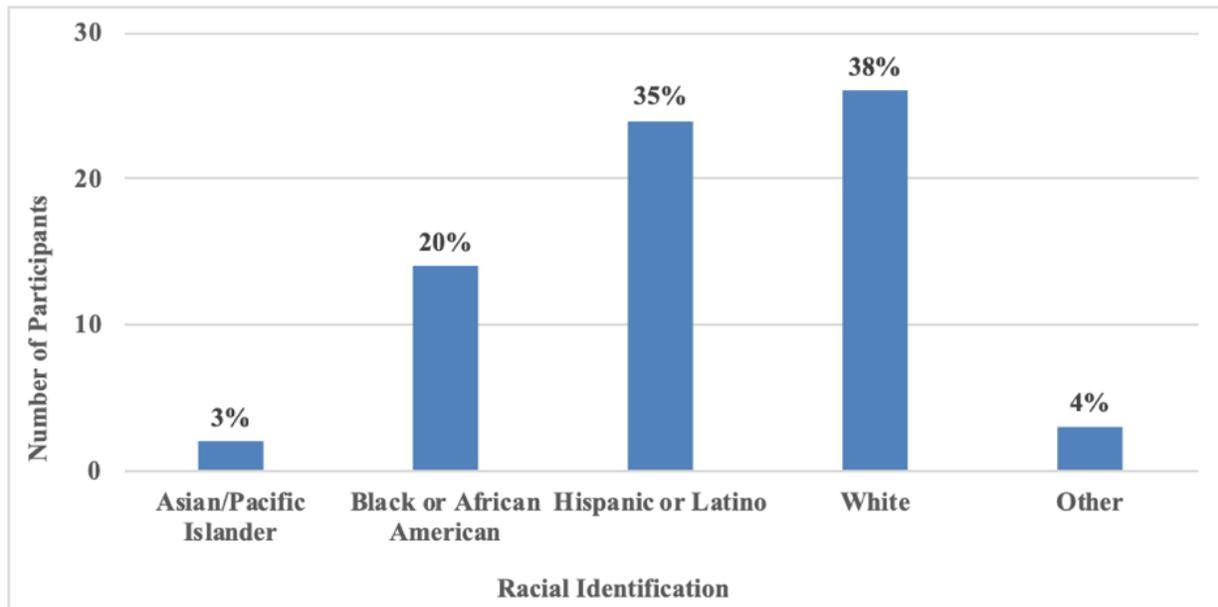
Source: Unpublished figure developed by research staff, October 2018.

Interviewees reported more positive than negative outcomes across all three job-training programs. Common themes included workforce integration, social connection, resource connection, inspired children, connections to employer, and grit, which had been tracked in the coding system. Based on narratives from interviewees, there is evidence that the City of Austin’s investment in job-training programs helps provide financial stability, decreased stress levels, and other positive outcomes. These results were self-reported post-training. The interviews alone began and concluded within three months; this study was cross-sectional rather than longitudinal. The various job-training programs’ interviewees were employed in diverse industries such as allied health, skilled trades, information technology (info tech), automotive, education, business/management, and engineering (see Figure 5.4). The subsections below describe interview demographics for each of the three training programs, Capital IDEA, Goodwill, and Skillpoint Alliance. The text includes summary figures of interviewees and a discussion of the interviewees’ perspectives.

Capital IDEA

Capital IDEA trains a diverse group of participants. Project staff interviewed 70 graduates from Capital IDEA, and interviewees were roughly one-third white, one-third Latino, and one-fifth Black (see Figure 5.5). Figure 5.6 shows that interviewees were mostly in their late 20s and 30s. About two-thirds of interviewees were female (see Figure 5.7). The majority of these interviewees received training in allied health and information technology industries (see Figure 5.8).

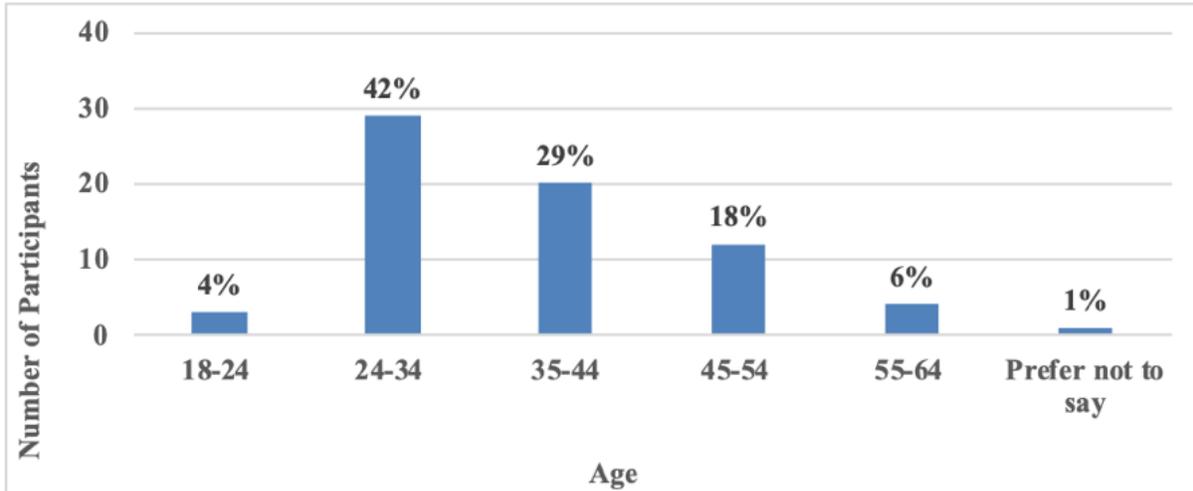
Figure 5.5.
Capital IDEA Interview Participants by Race/Ethnicity



N = 70

Source: Unpublished figure developed by research staff, October 2018.

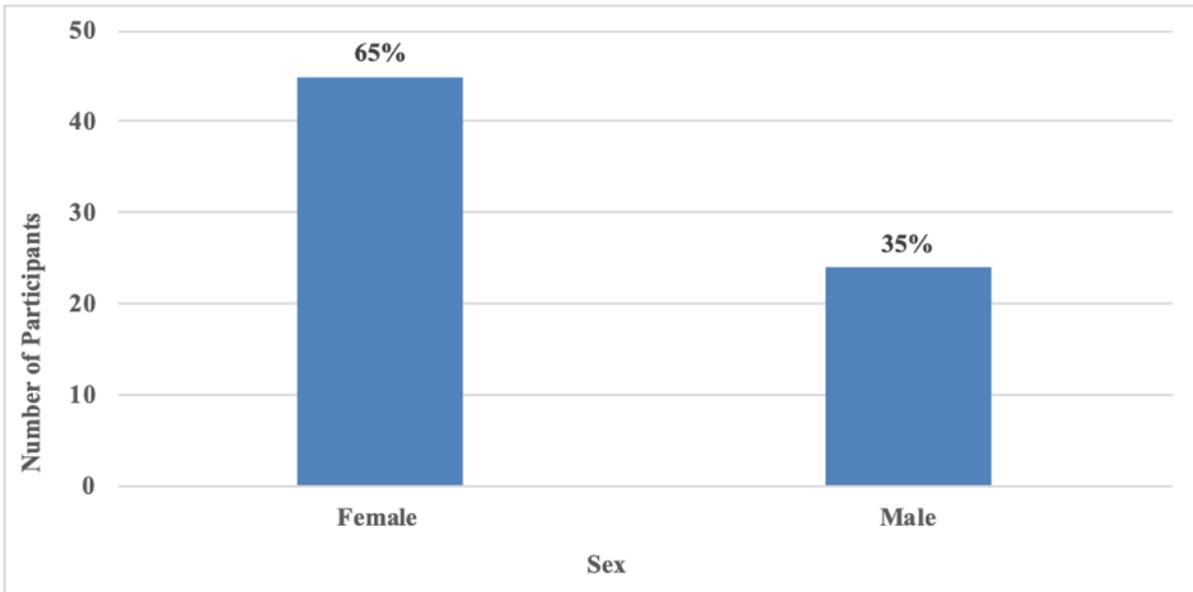
Figure 5.6.
Capital IDEA: Interview Participants by Age



N = 69, omitted 1 response (data not provided)

Source: Unpublished figure developed by research staff, October 2018.

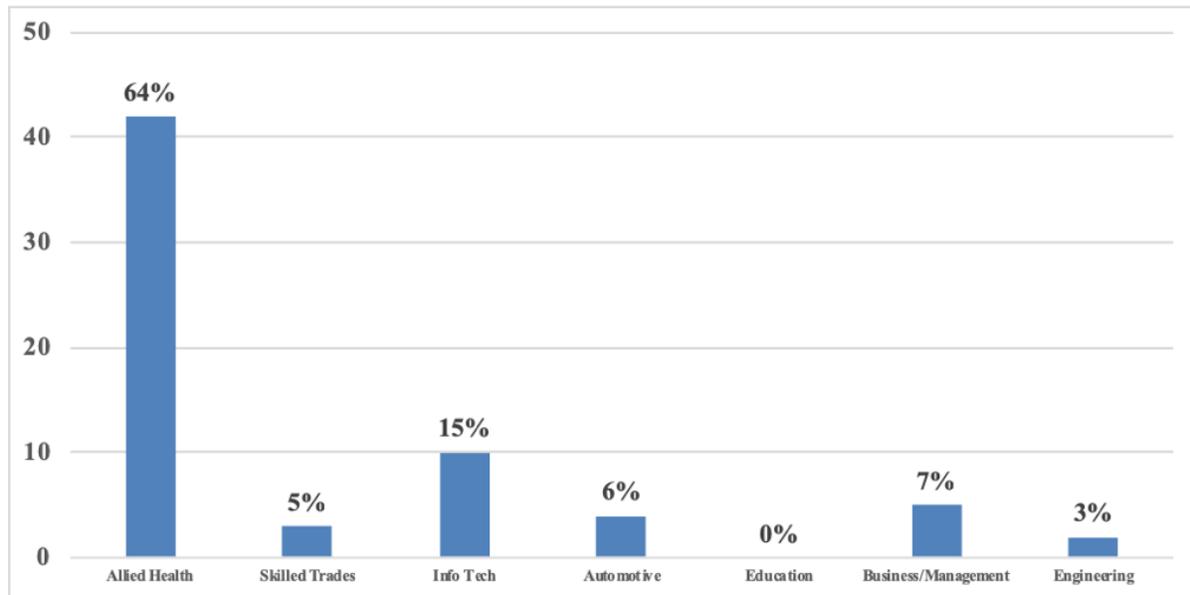
Figure 5.7.
Capital IDEA: Interview Participants by Gender



N = 70

Source: Unpublished figure developed by research staff, October 2018.

Figure 5.8.
Capital IDEA: Interview Participants by Industry Certification



N = 68, omitted 2 responses (data not provided)

Source: Unpublished figure developed by research staff, October 2018.

Capital IDEA interviewees reported high satisfaction with their training experience. Interviewees stated that the program exceeded their expectations, as they learned skills beyond the certification curriculum. One interviewee reported that the most beneficial component of her program was learning how to build her resume and participating in mock interviews.² Capital IDEA interviewees stated that they had more “job-readiness” after graduating from their program and felt it prepared them to move forward in their careers upon receiving certification.

Capital IDEA provides a wide range of so-called “wrap-around services” during the program that helped interviewees overcome a variety of job-training barriers, such as paying for tuition, fees, books, certification exams, and work supplies like uniforms and stethoscopes. Case managers work closely with interviewees and provide additional resources during times of need, including support for transportation, housing, bills, and child care, encouraging participants to remain in the program. Many interviewees still remember and speak highly of their case managers. A single mother in her forties almost dropped out of her Capital IDEA program because she was not able to pay for gas for a one-hour commute. Her case manager was able to provide her with a gas card to allow her to continue in the program.³

Capital IDEA introduced interviewees to potential employers immediately upon graduation and many students secured employment shortly after completing the program through these connections. Capital IDEA invites employers to its students’ graduation ceremonies and supports graduates in their job search and interview process. Capital IDEA provided interviewees with a range of services to help them apply for and find relevant employment, including editing resumes, supporting professional communication, and conducting mock interviews. The program

also partners with Dress for Success Austin to help graduates secure professional attire. One interviewee of the Registered Nursing program said, “Capital IDEA helped me put together my resume and set me up for success. I had many choices and access to choose what I wanted and where I wanted to work.”⁴

Most Capital IDEA interviewees were able to secure employment with higher wages and more opportunities for career advancement upon graduation. On average, Capital IDEA interviewees saw their wages increase by 161.5 percent; 47 percent were promoted after graduation. More than two-thirds (69 percent) reported that they have opportunities for career advancement within their current field. Some interviewees saw their incomes increase two- or three-fold. For example, Maria has been promoted three times since completing a Capital IDEA program in the healthcare field, raising her salary from \$24,000 (pre-program) to \$80,000 a year.⁵

After completing the program, interviewees gained access to more and better employment benefits. Whereas 30 percent of interviewees had no or unstable access to health care before completing the program, 83 percent of interviewees had access to health care after completing the program. Interviewees also reported more access to paid and unpaid time off, paid sick days, parental leave, and retirement plans.

Increases in wages and benefits led to a decreased reliance on social services. For example, 31 percent of interviewees who once qualified for Medicaid no longer do; another 33 percent of interviewees who once received food stamps no longer do.

Interviewees reported improvements in educational prospects, health and wellness, and benefits accruing to their children. Many interviewees pursued or are currently pursuing higher education, with several citing their success at Capital IDEA as a stepping stone to further achievement. For example, after graduating from Capital IDEA, one interviewee is now pursuing a master’s degree with the help of an employer who is paying over 80 percent of the tuition.⁶ One woman who trained as a radiology technician later pursued a master’s degree in education and now teaches radiological science at a community college.⁷ Another interviewee who is currently a part-time graduate student stated that “the more you achieve education-wise, the better you’ll do for your family and community.”⁸

Interviewees reported improvements in health and wellness, including better diets, enhanced exercise regimes and decreased stress. Sixty percent of interviewees reported their food consumption habits had changed, mostly for the better: Thirty percent reported exercising more after the program. Interviewees also enjoyed decreasing stress levels. Before the program, interviewees reported an average stress level of 3.37 on a scale of 1 to 5, with 1 meaning “low stress” and 5 meaning “difficult to function.” After the program, interviewees reported an average stress level of 2.4.

Interviewees reported that completing workforce training had benefits for their children. Interviewees reported being able to enroll their children in more extracurricular activities with increased incomes. About 38 percent of interviewees reported that their children could participate in activities that previously they were unable to join, such as children’s sports and family vacations.

Goodwill Central Texas

Goodwill interviews provided limited information on the outcomes for graduates because graduate contact information has only been stored since 2016. Due to the limited data, research staff conducted only four interviews. Race, age, and industry will not be reported because the small sample size would not represent Goodwill's graduates accurately. To better track past programs and their outcomes in the future, Goodwill plans to retain data for a longer period of time.

In the four interviews, interviewees reported an overall positive experience with the training and case management that Goodwill provided. Interviewees cited the program's case management, wrap-around services, and soft-skills training as most beneficial. Goodwill serves more vulnerable participants than Capital IDEA or Skillpoint, including persons who are homeless prior to training or living with a disability. Many participants experience barriers to employment because of their life situations. Goodwill provides an essential service to people who would often not be successful in traditional higher education by providing training and case management.

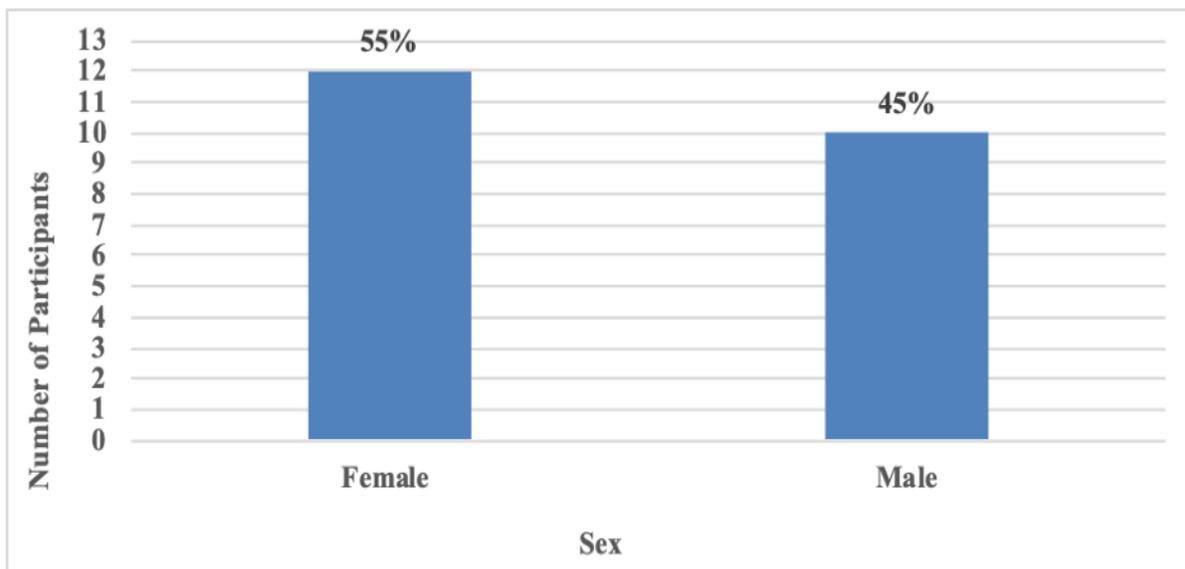
For example, research staff interviewed a middle-aged woman who was unemployed and living on the streets of Austin for over a year prior to receiving training from Goodwill.⁹ She learned about Goodwill's training program while homeless and staying at the Salvation Army shelter. She decided to join the program because of its free cost and wrap-around services. Through participation in the CNA certification through Goodwill, she was able to secure a CNA job in a nursing home. Salvation Army paid her rent for one year. Now working only two days a week as a CNA, she can stay home five days a week and care for a daughter with disabilities. Goodwill also helped her connect with other services to help her daughter, such as three different workers/therapists who visit to help her daughter every week. Without Goodwill, she feels like she would either be in jail or dead. She credits Goodwill with giving her the opportunity to start a career and become a successful citizen in Austin "because now I don't have to try and figure out how to get food." Her son is currently in Goodwill's Excel program and believes Goodwill "opens doors to take small steps in his goal of going to college because he can get a certificate and get paid more while he goes to college."

A second Goodwill graduate interviewee had a similar background; she too became homeless and unemployed prior to her Goodwill training to be a phlebotomist.¹⁰ Beyond the technical skills, Goodwill taught her that "to be a successful employee no matter where you work, you need to bend and be flexible to other people's personalities and management styles." Goodwill taught her soft skills that would help her secure and maintain employment. She now works full time as a front desk clerk and has her own place to live. She said if she didn't participate in Goodwill she "would probably be working at McDonalds or looking for jobs on Indeed or Craigslist." Goodwill had a positive impact on her children as well, as she reports that participating in Goodwill showed her kids the value of work and taught them that it is a daily requirement.

Skillpoint Alliance

Project staff interviewed 22 Skillpoint graduates. Skillpoint interviewees joined the program because they were seeking a condensed program to gain employment quickly. Interviewees often worked long hours for low wages in service industry positions prior to Skillpoint. Many interviewees only had high school diplomas or GEDs, but no other education or training experience. A diverse group of interviewees participated that reflected a near-even split in gender (see Figure 5.9), with multiple racial and ethnic identities and a concentration of Black and Hispanic/Latino people (see Figure 5.10). Seventy-three percent of interviewees were between the ages 18 and 34 (see Figure 5.11). The nursing program (CNA) is the most reported certification attained in the Skillpoint Alliance program, with 64 percent of interviewees choosing this program (see Figure 5.12).

Figure 5.9.
Skillpoint Alliance: Interview Participants by Gender

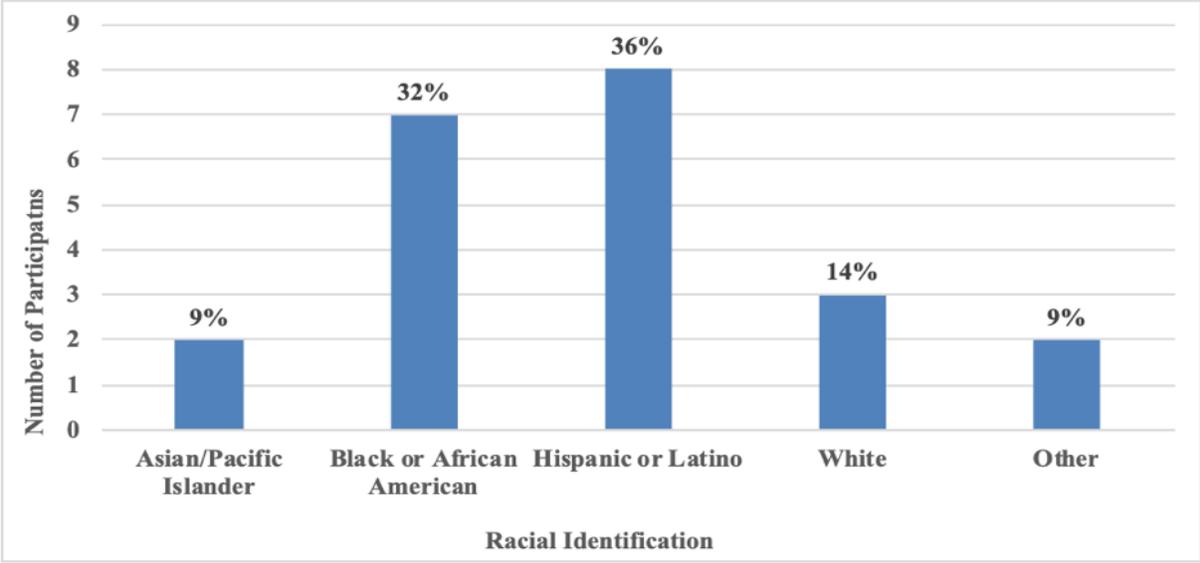


N = 22

Source: Unpublished figure developed by research staff, October 2018.

Interviewees reported satisfaction with Skillpoint Alliance at much higher rates after the mid-2000s when the program transitioned to provide more wrap-around services and teach soft skills. Interviewees lauded Skillpoint for its wrap-around services that are helpful, caring, and motivating. One woman reported that Skillpoint employees went above and beyond to help her succeed. She was homeless and living in her car during training and lost custody of her four children. Skillpoint provided hotels for her to stay in, bus passes, food, and other things that she needed. Now, she has a full-time job in the industry for which she was trained and has custody of her four children.¹¹ Several interviewees reported that the wrap-around support gave them an “extra push” they needed to stay in school.

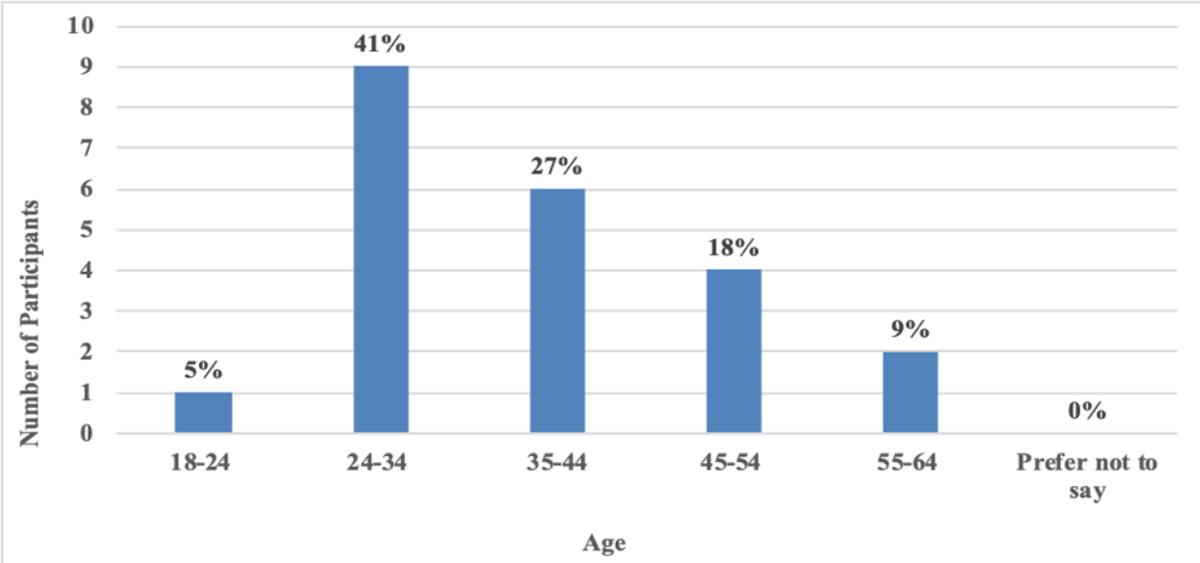
Figure 5.10.
Skillpoint Alliance: Interview Participants by Race/Ethnicity



N = 21, omitted 1 response (data not provided)

Source: Unpublished figure developed by research staff, October 2018.

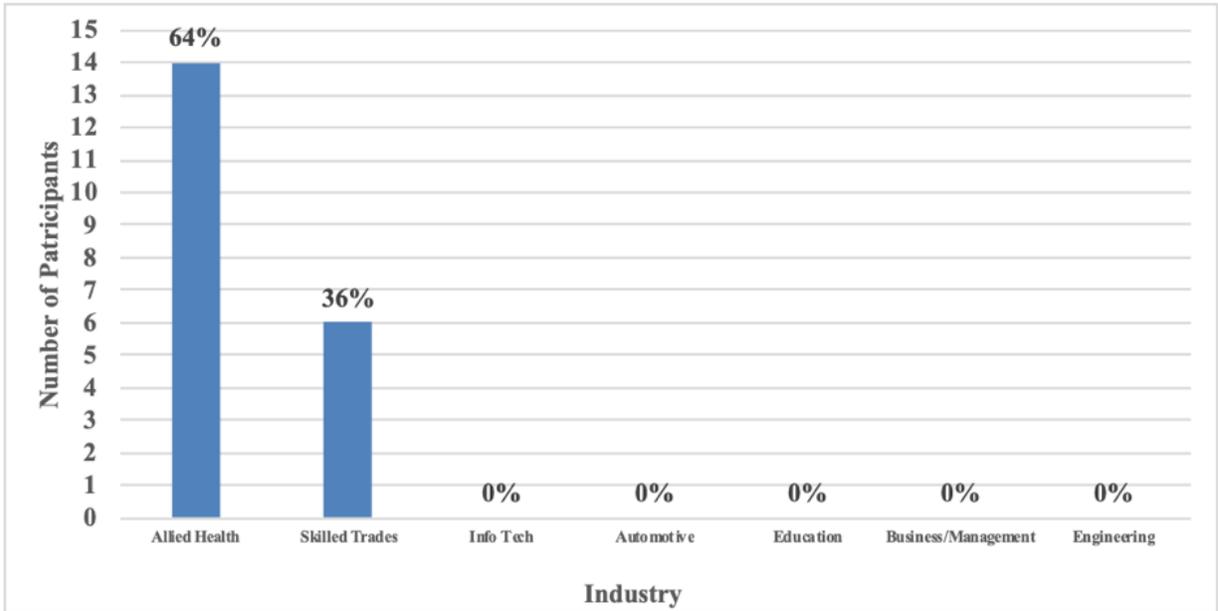
Figure 5.11.
Skillpoint Alliance: Interview of Participants by Age



N = 22

Source: Unpublished figure developed by research staff, October 2018.

Figure 5.12.
Skillpoint Alliance: Interview Participants by Industry Certification



N = 20, omitted 2 responses (data not provided)

Source: Unpublished figure developed by research staff, October 2018.

Interviewees report greater satisfaction with current employment than before they entered the program. Before the program, interviewees reported an average satisfaction level of 2.6 out of 5, with 1 meaning “low satisfaction” and 5 meaning “high satisfaction.” After the program, interviewees reported an average satisfaction level of 4.3. Most interviewees are able to attain higher salaries, with an average increase in pay of 114 percent. About 45 percent of interviewees gained benefits they did not previously receive, such as health insurance and paid time off, and are often working no more than 40 hours per week with at least two days off.

Health outcomes tended to improve for the average Skillpoint graduate. For example, 45 percent of interviewees reported more free time that allows for self-care and 36 percent of interviewees reported they have better eating habits because they cook at home instead of eating inexpensive fast food. Interviewees reported differences in stress levels; the average before training was 3.8 on a five-point scale and after training was 2.28. Nearly all interviewees ranked their stress levels as lower after training than before, despite often having increased responsibilities. Many interviewees reported they are satisfied with their current mental health and do not need more money for mental health services.

Some Skillpoint interviewees are attaining higher education after training and work experience. Three interviewees went on to receive their bachelor’s degrees to be more competitive in the job market. Interviewees who once could not afford classes at local community colleges are able to save up money for tuition, have more free time for classes, and are more successful in school with the skills they have attained from studying through Skillpoint Alliance.

Skillpoint Alliance, while a shorter program, leads to improved quality of life and standard of living for participants and their families. Forty-one percent of interviewees reported that their children responded positively to their example as a student. Many believe that their children study harder and that this work leads to greater opportunity in their futures. Many interviewees reported their children are now or will be more highly educated than their parents. For example, one interviewee reported that the program made a big impact on her three children. They saw and understood how the family struggled early in their lives. They saw their mom apply herself, work hard, and make a better life for her family. All three children now have completed a bachelor's degree.¹²

Interviewees attained benefits such as health insurance or paid time off after training that allow them to better raise their children. Interviewees with young kids indicated that they have more money and time, and their children have increased opportunities to join extracurricular activities such as sports or youth clubs. For example, 54 percent reported having more time with their children. On average parents reported that they were able to spend 107 percent more money on their children's activities after as opposed to before training. One woman reported that training affected her family, because her daughter used to ask, "Why do their moms not have to work?" when other moms in their school were staying at home. The daughter now understands that her mom is succeeding. The mother reported that she qualified for child support from her ex-partner and she can spend more time parenting. She can now pay for cheerleading, school clothes, and other supplies and activities that raise her daughters' quality of life.¹³

Skillpoint Alliance interviewees criticized its program structure in the mid-2000s prior to when significant changes occurred. One interviewee noted that she needed support and follow-up from tutors, counselors, and other staff. She felt that it was difficult to be successful and to be hired directly after training because she did not have work experience before the program. She reported that the Skillpoint program included classroom lectures with not enough hands-on field training.¹⁴ At the time, she reported that she does not yet have greater job access, and she remains unemployed living on a disability benefit.

Research Limitations and Challenges to Collecting Participant Data

This report has several limitations related to the research design, selection of interviewees, and participant response rates. One inherent limitation is "selection bias" in recruitment. Selection bias is a bias introduced by the selection of individuals for interview when true randomization cannot be attained. In this case, the willing interviewees could be more likely to report either positive or negative experiences; trainees in the middle of that spectrum who had moderate experiences may feel less motivated to participate in interviews.

Research staff identified and contacted interviewees from lists of job-training program graduates provided by the three local organizations. This sampling pool omits two relevant populations: people in Austin living in poverty who have not participated in job-training programs, and people who began one of the programs of interest but were unable to complete the program. The drop-out rate varies both by year and among agencies. Training programs did not share data on program retention and completion rates with research staff. In an ideal world, an evaluation

would include interview data from all three sub-populations and compare results. Potential interviewees who never started or who do not finish could serve as control groups to graduates.

Contacting interviewees was a challenge. Each job-training program provided access to a list of graduates' email and phone information. Often the phone and email contacts were no longer working: a significant number of email addresses bounced back, and phone numbers were no longer in service. Many phone numbers and email addresses had been changed since being collected more than a decade ago. Population trainee characteristics can exacerbate contact problems as interviewees included persons who have lived or are currently living in poverty and many have less reliable access to phone and email service.

Population sampling was limited due to a lack of financial incentives for interviewees. Once research staff could reach a program graduate by phone or email, each was asked to participate in a 45-minute interview without remuneration. If there had been funds to offer a small financial incentive, it is possible that more participants would have consented to interviews. Without financial incentives, an interviewee's personal motivation represents a primary reason to participate in this research project.

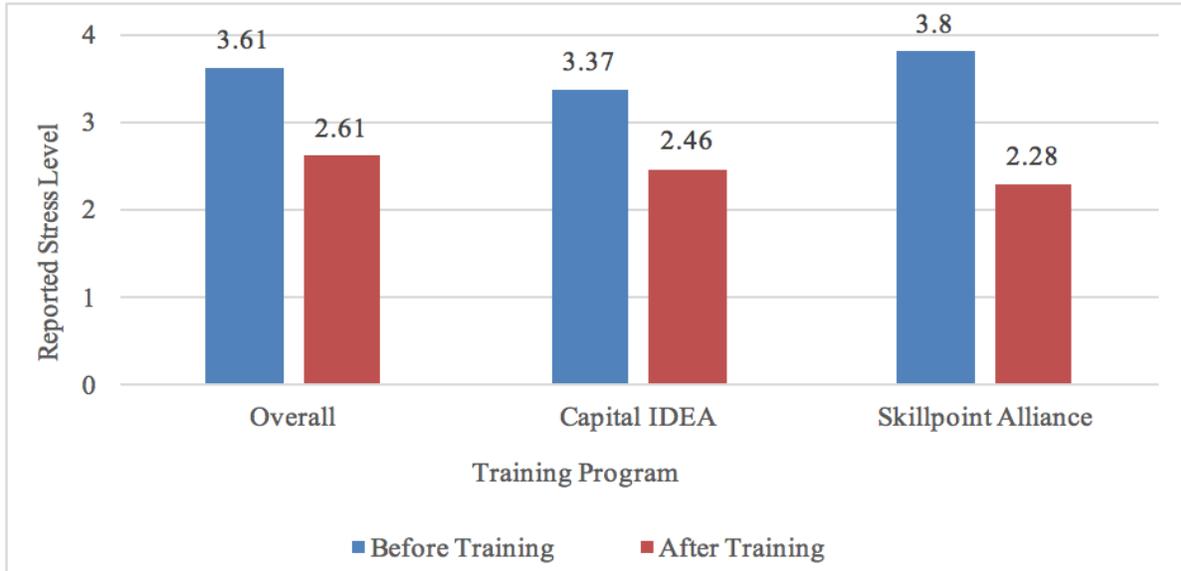
The types of people who voluntarily sat for an interview could influence the data and results. Research staff collected interview data from program graduates who started and finished a job-training program, provided and maintained the same contact information for up to a decade, and were motivated to be interviewed despite being uncompensated. It is reasonable to assume that "potential" interviewees who did not interview could have different perspectives from those who agreed to participate in an interview. The authors of this report cannot evaluate whether actual interviewees could report being more satisfied with their job-training experience and/or may be in a more stable economic position than other persons in the population of interest.

Discussion

One purpose for conducting qualitative interviews is to identify how the training experience affects graduates and families. Interviewees' comments indicate that Capital IDEA, Goodwill, and Skillpoint positively affect participants, their families, and employers. Nearly all interviewees noted that their experience in the job-training program was life-changing. According to interviewees, important benefits and changes in the short term included increased financial stability from a higher salary, more qualifications on a resume that can lead to greater access to job opportunities, and a tuition-free education that provides a flexible alternative to a college environment in which they succeed.

Figures 5.13 to 5.15 illustrate changes in stress levels and incomes after interviewees participated in the job-training programs. Interviewees were asked to rate their pre- and post-program stress levels from one to five, with five being "hard to function." Figure 5.13 illustrates stress level changes. According to Figure 5.14, Skillpoint Alliance interviewees had larger changes in stress levels than Capital IDEA interviewees, garnering a 67 percent decrease in stress level. Capital IDEA interviewees experienced an increase of income from \$21,942 to \$57,382 pre- to post-program, garnering a 161.5 percent increase in income (see Figures 5.15 and 5.16). Skillpoint Alliance interviewees also experienced increased earnings pre- and post-program, from \$19,311 to \$41,312, a 144 percent increase.

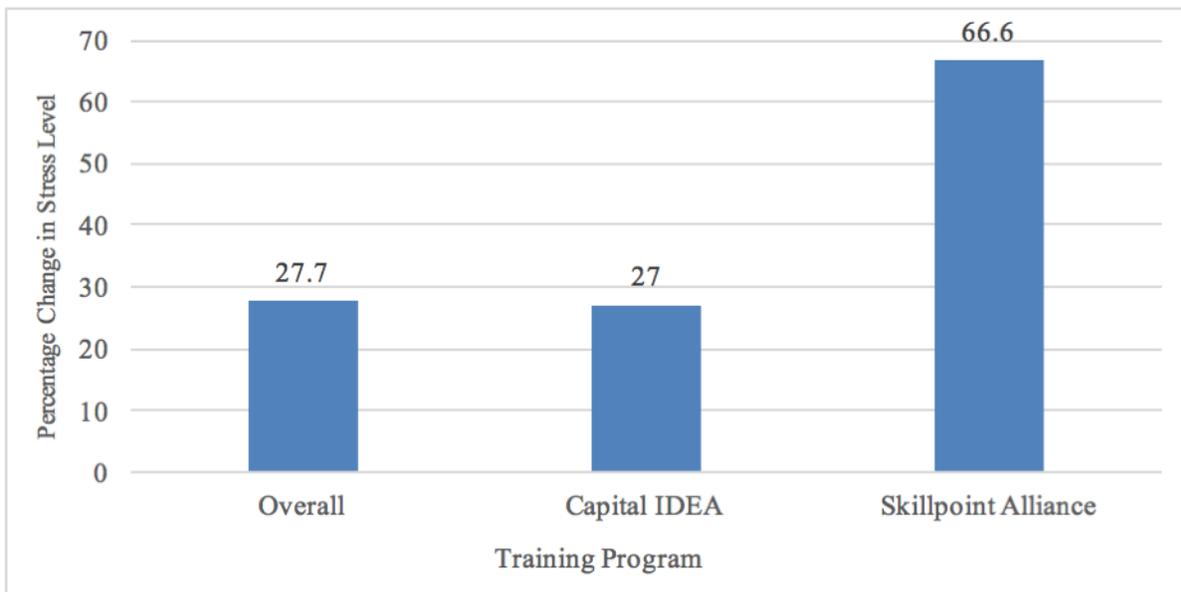
Figure 5.13.
Participant Change in Stress Levels



N = 92, omitted 4 responses from Goodwill (data not provided)

Source: Unpublished figure developed by research staff, October 2018.

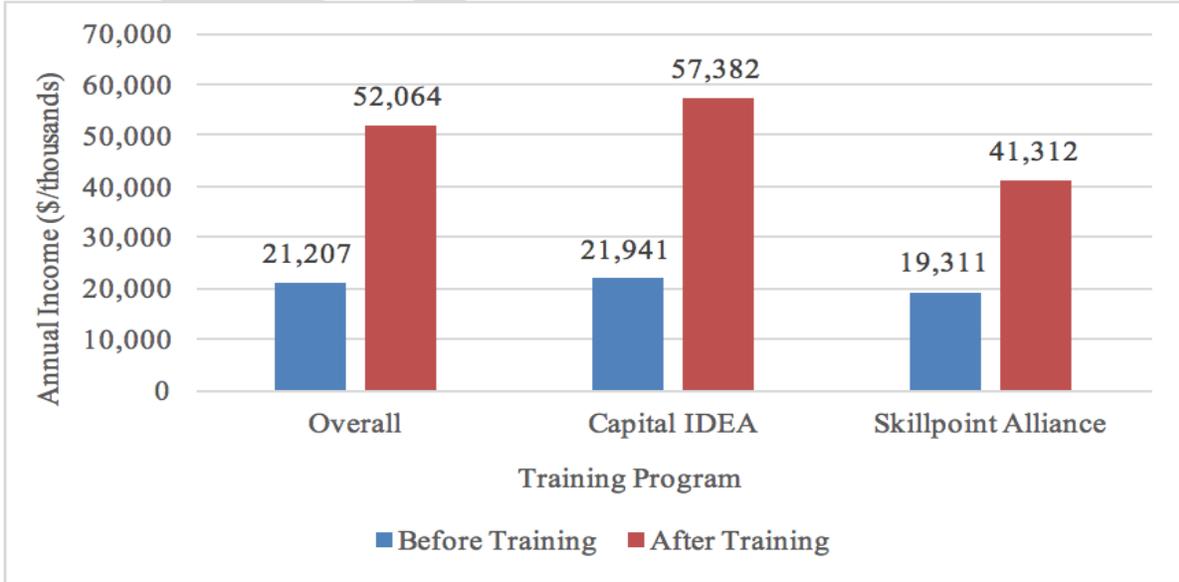
Figure 5.14.
Percent Change in Stress Levels by Program



N = 92, omitted 4 responses from Goodwill (data not provided)

Source: Unpublished figure developed by research staff, October 2018.

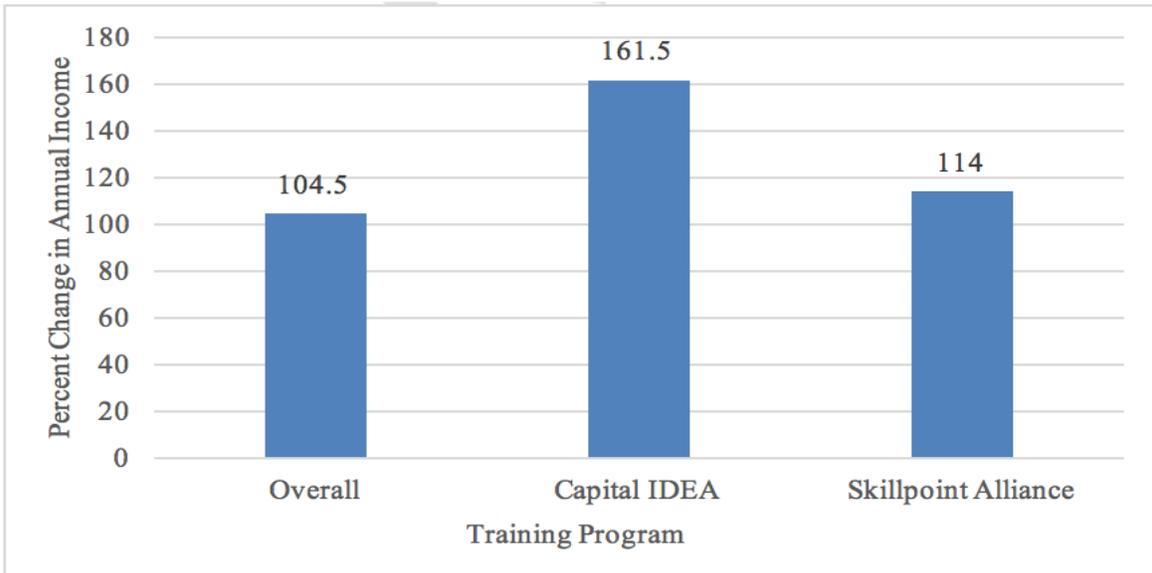
Figure 5.15.
Training Program Change in Annual Income



N = 92, omitted 4 responses from Goodwill (data not provided)

Source: Unpublished figure developed by research staff, October 2018.

Figure 5.16.
Participant Change in Annual Income



N = 92, omitted 4 responses from Goodwill (data not provided)

Source: Unpublished figure developed by research staff, October 2018.

Apart from the dramatic changes in stress levels and annual earnings, another benefit was improved outcomes for the second generation: interviewees' children. Interviewees reported that as parents they participate in more activities, provide more support on school work, and children can see their parent's success as a model to pursue their own higher education beyond high school. Several interviewees indicated that their children have been inspired by their job-training success and are interested in such training. There are other long-term benefits such as improved health due to changes in diet as result of more time to shop for groceries and cook at home, as opposed to eating out at inexpensive restaurants. Research staff expect to use these qualitative results as a basis for estimating components for a social return on investment in workforce training. These research reports also can be used to improve evaluation methods for job-training programs.

These qualitative interviews are valuable because analysts can develop intelligence about training programs and outcomes. These programs give an affordable education option to members of the community who are often excluded from continuing their education due to financial and time-related constraints. Training provides an economic ladder allowing community members to earn higher wages, which leads to increased power as consumers. The City of Austin and the training organizations should consider the value of these opportunities for low-income community members. All three organizations have a mission to provide skills and education for non-traditional and vulnerable populations of students to enable them to be competitive in the contemporary job market. The results of this inquiry show that the organizations are successfully pursuing their missions.

¹ Your Texas Benefits, "Learn How Your Texas Benefits Can Help You," <https://yourtexasbenefits.com/Learn/Home>, accessed November 30, 2017.

² Interview by Lily Feldman with Capital IDEA Graduate, coded as CI_LF_8, October 2018, Austin, Texas.

³ Interview by Lucy Blevins with Capital IDEA Graduate, coded as CI_17_LB. October 2018. Austin, Texas.

⁴ Interview by Lucy Blevins with Capital IDEA Graduate, coded as CI_15_LB. October 2018. Austin, Texas.

⁵ Ibid.

⁶ Interview by Lily Feldman with Capital IDEA Graduate, coded as CI_LF_2, October 2018, Austin, Texas.

⁷ Interview by Lily Feldman with Capital IDEA Graduate, coded as CI_LF_3, October 2018, Austin, Texas.

⁸ Interview by Lily Feldman with Capital IDEA Graduate, coded as CI_LF_8, October 2018, Austin, Texas.

⁹ Interview by Grace Kay with Goodwill Graduate, coded as GW_2_GK, September 2018, Austin, Texas.

¹⁰ Interview by Grace Kay with Goodwill Graduate, coded as GW_1_GK, September 2018, Austin, Texas.

¹¹ Interview by Grace Kay with Skillpoint Alliance Graduate, coded as SPA_4_GK, September 2018, Austin, Texas.

¹² Interview by Kevin Caudill with Capital IDEA Graduate, coded as CAP_KC_6, October 2018, Austin, Texas.

¹³ Interview by Kevin Caudill with Capital IDEA Graduate, coded as SPA_KC_3, October 2018, Austin, Texas.

¹⁴ Interview by Kevin Caudill with Skillpoint Alliance Graduate, coded as SPA_KC_1, September 2018, Austin, Texas.

Chapter 6. Developing Methods to Evaluate Economic Return on Investment

One of many metrics to assess program performance is return on investment (ROI). For workforce training, an ROI computes whether its benefits exceed its costs, after converting the program's outcomes to monetary values. An ROI informs a discussion of program effectiveness even though it does not assess whether the program achieves its goals of moving participants out of poverty or increasing social and second-generation performance.

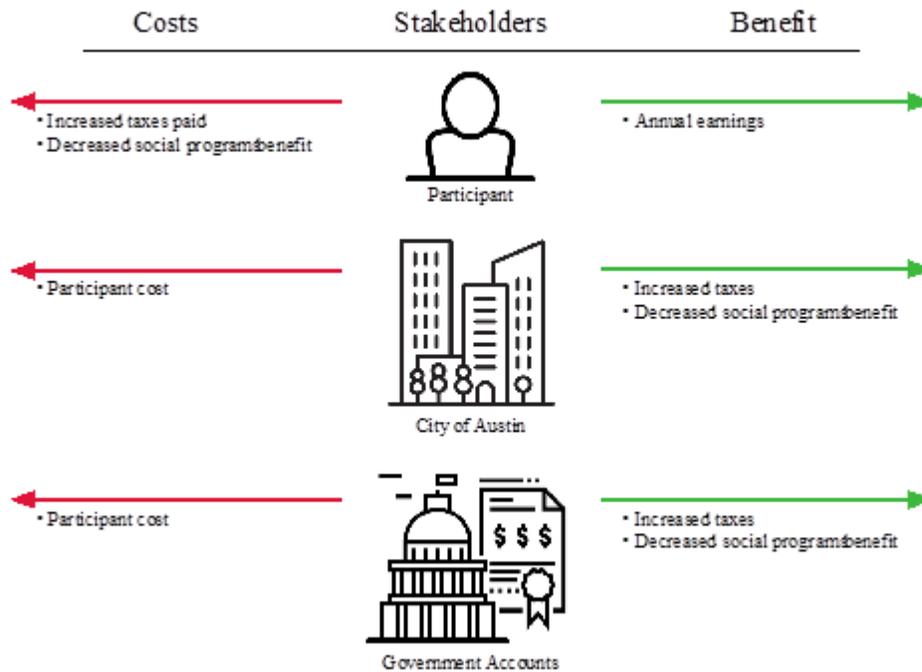
Research staff developed an ROI analysis to examine the benefits and costs of the three workforce development programs for three specific stakeholder groups: training participants, government accounts, and the City of Austin. This study reports on how benefits and costs were calculated from the time period before training participants entered the training programs to multiple years after completion of training. In this ROI, benefits and costs are defined as the monetary returns or expenditures realized including: "wage changes," "government assistance received," "program costs," or "changes in taxes." For example, participants who complete training receive benefits in the form of increased wages post-graduation, but also incur costs in the form of higher taxes and lower government assistance. The City of Austin and the public sector receive "benefits" such as increased tax revenue and reduced government social program expenses, while taking on the "costs" of the training programs. Figure 6.1 illustrates how changes in costs and benefits affect the ROI for each stakeholder.

Research staff used participant wage data to estimate costs and benefits such as changes in tax revenue and government assistance. This chapter serves as a guide to analyze the estimation techniques used by research staff to estimate benefits and costs incurred by the three stakeholder groups as a result of the training programs. Research staff constructed equations to compute benefits and costs (see Appendix F in the online appendices).

To formulate a return on investment, a first step is to define the years under analysis. The ROI analysis is applied to the year prior to entering the program and each year after exiting the training program for a five-year period. "Stakeholders" refer to the three intended groups, participants, government accounts, and the City of Austin. Each stakeholder has its own set of benefits and costs associated with each year. ROI depends upon what constitutes a "benefit" or a "cost," according to the situation of each stakeholder. What might be a cost to one stakeholder could be a benefit to another (see Table 6.1).

Performance measurements of an ROI are so called "net-present value" (NPV) and "benefit-cost ratio" (BCR) for each stakeholder. The NPV subtracts the sum of discounted expenditures from the discounted sum of returns of all programs. BCR is the sum of training program discounted returns divided by the sum of training program discounted expenditures. A NPV greater than zero or a BCR greater than one indicates positive economic returns for the respected stakeholder. Research staff decided to discount benefits and costs at the U.S. Federal Reserve discount rate of 2.5 percent to convert costs and benefits from different time periods to a present value.¹

Figure 6.1.
Costs and Benefits for Stakeholders in Workforce Training Programs



Source: Unpublished figure developed by research staff, February 2019. Creative Commons graphics from the Noun Project, <http://thenounproject.com> (person graphic by Jaohuary, city graphic by Made, government graphic by Chanut is Industries).

Table 6.1.
Description of Variables

Variable	Meaning	Range
Time	Years after training	One to five years
Stakeholder	Who gains/loses	<ul style="list-style-type: none"> • Participants • Government Accounts • City of Austin
Program	Workforce training program	<ul style="list-style-type: none"> • Capital IDEA • Goodwill Industries • Skillpoint Alliance
Costs to stakeholder	Different costs to a stakeholder	Varies with stakeholder
Benefits to stakeholder	Different benefits to a stakeholder	Varies with stakeholder

Source: Unpublished table developed by research staff, October 2018.

Research staff modified the ROI measure produced by the RMC in 2011² to analyze 2014 returns on investments from adult workforce training provided by Capital IDEA, Goodwill Central Texas, and Skillpoint Alliance for Austin. Research staff used computed returns and expenditures specifying City of Austin’s funded training graduates from the 2014 cohort. Returns were calculated for 1-, 2-, 3-, 4-, and 5-year post-investment periods from 2015-2019.

Participant wage data were used to calculate changes in benefits and costs during the 1-, 2-, and 3-year post-investment periods. Wage projections based on available data were used for the 4- and 5-year post-investment periods.

Research staff analyzed economic ROIs for participants, government accounts, and the City of Austin. This approach differs from the RMC 2011 study in that the RMC grouped together “employers” and “individuals” under one category of “participants.” Research staff defined a person who completed a training program as a “participant.” Research staff calculated a government accounts ROI to capture returns and expenditures for local, state, and federal governments. The City of Austin’s ROI included COA-specific returns and expenditures. Research staff used unemployment insurance wage and claims data to estimate earnings for participants. UI data provides average quarterly wages for participants for the period before and after completion of the training programs. Research staff used available UI wage data to estimate income change upon program completion. Available UI wage data allowed research staff to estimate the change in social services received by participants, including SNAP, housing support, and utility subsidies, as discussed below.

Table 6.2 lists the measures used to complete the economic ROI. The research staff used measurements in Table 6.3 to estimate performance measures. Results would vary if research staff included or excluded different performance metrics, selected other surrogate measures, made other assumptions, or adapted assumptions within the ROI methodology. Research staff believe the ROI measure assumptions are appropriate for the intended purpose. Later sections relax some of the assumptions to compute how outcomes can vary with different assumptions. To simplify an initial analysis, research staff made the assumptions listed in Table 6.4.

Table 6.2.
Economic Return on Investment Analysis

Measurement	Definition	Relevant Stakeholders
Annual earnings	Wages from work over a 365-day timespan	Participants
Per participant cost	Total costs of services provided to a student by training programs; includes values of instructor time, recruiting, supplies, and other services	Government accounts; City of Austin
Forgone earnings	Wages that participants do not earn while in training	Participants
Supplemental Nutrition Assistance Program (SNAP)	A monthly benefit for low-income individuals to purchase food with a rechargeable payment card (EBT card)	Participants; Government accounts
Housing vouchers	Vouchers for low-income residents to assist in purchasing housing	Participants
Utility assistance	Customer Assistance Service to low-income residents, which discounts City of Austin utility bills	Participants; Government accounts; City of Austin
Sales tax	6.25 percent tax (state) and 2 percent tax (city) on all retail sales, leases, and rentals of most goods and taxable services	Participants; Government accounts; City of Austin
Income tax	Federal progressive tax rate on individual personal income	Participants; Government accounts

Source: Unpublished table developed by research staff, October 2018.

Table 6.3.
Measures and Sources Used for Estimates

Measurement	Sources
Annual earnings	UI wage data from the Texas Workforce Commission to estimate annual wages.
Per-participant cost	Each training program provided per-participant cost.
Forgone earnings	UI wage data; training program wages not earned, based on average length of program, provided by each program.
Supplemental Nutrition Assistance Program (SNAP)	The research team used UI wage data from the Ray Marshall Center, income thresholds and standard deductions and benefits levels from the U.S. Department of Agriculture Food and Nutrition Service (USDA FNS), and fair market rents from the U.S. Department of Housing and Urban Development (HUD).
Housing vouchers	The research team used income thresholds and fair market rents provided by HUD.
Utilities assistance	The research team used the estimated annual average rate reduction of \$650 for low-income residents from the City of Austin’s Customer Assistance Program (CAP) as calculated and published by Austin Energy on the CAP website. The team also used annual federal poverty level measurements for a single household in relevant years as reported by the Department of Health and Human Services as the Poverty Guidelines for the 48 Continuous States and the District of Columbia.
Sales tax	The research team used an estimated tax incidence as a percent of total income in five brackets provided by the Texas Comptroller of Public Accounts.
Income tax	The research team used the summary of the latest federal income tax data provided by the Tax Foundation, which includes an average federal income tax rate by individual adjusted gross income.

Source: Unpublished table developed by research staff, October 2018.

Table 6.4.
Return on Investment Methodology Assumptions

Assumption	Overview
Wages	Reported wages are a participant’s only source of income, with reported quarterly earnings consistent for the year. If a trainee has other sources of income, this assumption may underestimate actual income.
Household size	Participants are single-person households; each individual is single with no dependents. This assumption is likely to underestimate family size and thus eligibility for participant benefits.
Discount rate	All past and future costs and benefits are converted to present U.S. dollars using a Federal Reserve 2.5 percent discount rate. The Federal Reserve standard estimates the 2.5 percent discount rate through an in-depth evaluation of nationwide economic conditions.
Benefits coverage	Any participant who meets an income requirement for any benefit (SNAP, utility discounts, or housing assistance) is enrolled automatically and will receive benefits. Monthly benefits based on income are consistent for the calendar year.
Housing expenses	Program participants do not purchase homes in the Austin/Round Rock area and do not pay property taxes. Shelter expenses are equal to the fair market rent in Travis County for an efficiency apartment.
Income taxes	Participants pay federal income tax based on income. The City of Austin does not receive direct transfers from paid federal taxes.
Sales taxes	As participants earn more, they purchase more and therefore pay more in sales tax. The City of Austin receives revenue from 24 percent of the sales tax revenue collected that accrue to the State of Texas ($2.0/8.5=0.24$).

Source: Unpublished table developed by research staff, October 2018.

Measurements

Annual Earnings

The Texas Workforce Commission provided the Ray Marshall Center with quarterly wages for all training participants and comparison groups.³ Quarterly wages allowed the research team to estimate training program participant benefits by computing training participants' earnings prior to and after training. After participants complete training and are employed, their wages may increase. Wages can be compared to persons who did not complete workforce training. If training participants' average wages increase after training more than the average wage of a comparison group, the increased income is an economic benefit for participants.

A quarterly wage is the amount paid by an employer as wages over three months. Quarterly wages are converted to annual wages by multiplying a quarterly wage by four. Annual wages are configured for six time periods: pre-program (year -1), versus the wages five years after completing the program in years 1, 2, 3, 4, and 5.

Research staff computed the difference in the earnings before the program (year -1) and after the training program. As indicated in Equation F.4 (see Appendix F), a participant's change in annual earnings is calculated by subtracting their pre-program annual earnings from each year 1, 2, 3, 4, and 5.

Research staff calculated average annual earnings and the change in annual earnings for a comparison group (non-participants) in each program. Research staff used the same methodology to calculate the comparison group's average annual earnings and earning change. Research staff calculated the change in average annual earnings for training participants versus the comparison group. The annual average wage difference between groups is the change in earnings in the time-class for the training group versus the comparison group. This difference, as computed in Equation F.7 (see Appendix F), is used in the ROI calculations.

Workforce Investment Expenditures

Workforce investment costs include how much a program spends for each participant, including direct program services, supplies, any staff time for supporting occupational training efforts, and any other costs. COA leverages investments alongside other public and private funding for each of these workforce training programs. Workforce investment costs to the COA are included in the ROI based on 2014 contract figures averaging the per-participant cost for each trainee. The resulting cost basis used in constructing the ROI is \$13,287.29 per person for Capital IDEA, \$1,476.80 per person for Goodwill, and \$3,796.37 per person for Skillpoint. As of February 2019, the actual per person cost for each program is still under revision by the workforce training programs and the City of Austin.

Forgone Earnings

Each workforce program requires full-time enrollment. Forgone earnings measure the income that participants could have received from work if that individual had not been enrolled in training. The forgone earnings measurement is the difference between what a participant did earn

during the program, versus the potential earnings had a participant not enrolled. Forgone earnings represent a participant cost within a training program.

If a training participant’s flow of future earnings, or benefits, after training is less than the training participant’s forgone earnings, the individual would experience costs exceeding financial benefits. If the stream of future benefits exceeds the forgone earnings from program participant and other expenditures, then a trainee receives more benefits than costs, a net positive benefit.

Research staff calculated training participants’ forgone earnings by computing the difference between pre-program earnings and in-program earnings. Research staff converted the difference in quarterly earnings to forgone earnings, assuming the in-program earnings throughout training, as wage data are available only in quarterly form. Table 6.5 lists forgone earnings, using quarterly earnings for pre-training and in-training earnings.

**Table 6.5.
Forgone Earnings Per Program**

Program	Pre-program Earnings	In-program Earnings	Difference	Forgone Earnings
Capital IDEA	\$4,467	\$4,547	-\$80	-\$1,114.96
Goodwill	\$3,185	\$2,768	\$416	\$173.52
Skillpoint Alliance	\$3,671	\$2,317	\$1,354	\$648.95

Source: Unpublished table developed by Research Staff, October 2018.

To calculate forgone earnings, research staff multiplied average program length (in quarters) by the earning difference per quarter, as computed in equations F.8 and F.9 (see Appendix F). Capital IDEA’s program length is comprised of 14 quarters (3.5 years). Goodwill and Skillpoint’s length are 0.42 and 0.48 quarters, respectively.

SNAP Assistance

If a training program participant exits poverty, he or she will reduce the value of consumed social services. One change would be in the amount of public food assistance for which an individual is eligible. As participants’ wages increase, it is possible that their food assistance benefits decrease. Reduced assistance from less food aid represents a cost to the participant but a positive return to government accounts.

The federal government authorizes funding for food assistance through the Supplemental Nutrition Assistance Program (SNAP). SNAP is a federal program administered by states that provides a monthly allowance to qualifying families based on net and gross income.⁴ Benefits can be spent on food only and are delivered monthly on a reusable Electronic Benefit Transfer card (EBT), similar to a debit card. A SNAP card can be used at grocery stores and other establishments that sell food items. In fiscal year 2017, an estimated 14 percent of Texans received SNAP benefits at some point during the year.⁵ To be considered eligible, applicants must also meet specific asset and income limits. In general, gross income must be below 130

percent of the Federal Poverty Guidelines (FPG) for the corresponding household size; net income (after expenses) must be below 100 percent FPG.⁶

SNAP provides support in meeting basic living expenses and is one factor in assessing the financial stability of low-income households. Research staff chose to include SNAP in the analysis to account for the role food assistance provides to persons in poverty, towards an individual's budget and towards overall purchasing power. A household's monthly benefit is determined by its total income and expenditures on food, shelter, and other living expenses. The benefit calculation uses a maximum benefit amount determined by the federal government that families with zero net income would receive. The SNAP benefit equals that maximum benefit amount minus the household's expected contribution towards food. This means that a SNAP benefit is reduced as income increases until a household's earnings exceed the gross/net income limits for program participation. As SNAP benefits fall, the change is a cost for the participants. The decrease in participant SNAP assistance saves money within government accounts, and thus represents a government account benefit.

To include SNAP in the ROI analysis, research staff estimated an individual's eligibility for the program and expected benefits before and after training program completion. The monthly benefit is determined based on a household's income and various deductions for expenditures on necessities, such as shelter, childcare, and food. The standard benefit calculation formula is determined by the federal government, as shown below.⁷ This calculation includes an earnings deduction equal to 20 percent of gross income, a standard deduction based on household size, and other deductions for shelter costs and basic expenses. Research staff used this methodology to estimate the annual SNAP benefit based on average quarterly earnings.

Research staff calculated the annual SNAP benefit based on the estimated monthly benefit for each household. For each training program, research staff estimated a pre- and post-program annual SNAP benefit, based on an estimated change in eligibility and benefit levels for both the average participant (treatment group) and the average non-participant (comparison group) over 1, 2, 3, 4, and 5 years. The ROI analysis includes the difference in annual SNAP benefits between the treatment and comparison groups at each year post-completion.

To obtain a conservative estimate of SNAP payments, research staff assumes a household size of one person with zero childcare expenses, with shelter costs equal to the fair market rental standard in Travis County for the corresponding year.⁸ The USDA Food and Nutrition Service determines annually a SNAP standard deduction and maximum benefit level for each household size.⁹

Housing Services

Research staff included housing vouchers in the ROI analysis. Research staff estimated housing voucher cash benefits using RMC wage data. If wages increase post-program versus pre-program, the value of housing vouchers would fall. The reduction in a housing subsidy represents a cost to participants.

Despite housing vouchers being a publicly funded program, research staff did not identify government accounts or the COA as relevant stakeholders because the COA fixes the upper limit

on the number of persons who can receive voucher support at roughly 6,000 people.¹⁰ If a trainee exits the housing voucher program, another person would enter it, as significantly fewer people receive housing assistance than the number of people who are eligible. In other words, new households in need would replace the households that no longer require voucher assistance.

The COA provides housing assistance to lower-income people through two types of vouchers, tenant-based and property-based. Research staff used the tenant-based voucher method exclusively to estimate housing benefits for the ROI. Project-based or private-subsidized housing benefits are difficult to estimate because the costs and benefits are not uniform across all recipients.

COA vouchers enable a lower-income resident to choose a market-rate apartment and spend no more than 30 percent of the household income on rent, with a voucher funding the remainder.¹¹ Vouchers subsidize rent based on a tenant’s income. The value of a voucher drops as a tenant’s income increases. Vouchers are no longer issued when a household’s income reaches the determined threshold. Table 6.6 lists the value of a voucher related to a person’s income. The values assume a one-person threshold level for years 2010, 2014, 2015, 2016, 2017, and 2018. Because HUD had not released the 2019 one-person income threshold during the project research period, research staff used 2018 thresholds for 2019 estimation.

Table 6.6.
Income Threshold for One-member Household

Year	2010	2014	2015	2016	2017	2018
Income limit	\$25,850	\$26,400	\$26,900	\$27,250	\$28,500	\$30,100

Source: U.S. Department of Housing and Urban Development, Office of Policy Development and Research, “Income Limits,” https://www.huduser.gov/portal/datasets/il.html#2018_data, accessed September 10, 2018.

Research staff used COA’s so-called “fair market rents” for an efficiency apartment to determine the voucher value, which is a conservative estimate. Table 6.7 lists the voucher amount for an efficiency apartment for 2010 and years 2014-2019.

Table 6.7.
Voucher Amount for an Efficiency Apartment

Year	2010	2014	2015	2016	2017	2018	2019
Efficiency	\$688	\$696	\$681	\$740	\$799	\$860	\$931

Source: U.S. Department of Housing and Urban Development, Office of Policy Development and Research, “Fair Market Rents,” <https://www.huduser.gov/portal/datasets/fmr.html>, accessed September 10, 2018.

Research staff used UI wage data to determine income, and thus also how much voucher recipients would contribute to rent. Participant income included imputed welfare income that the

COA would supplement with vouchers. If a participant is under the income threshold for a given time period, participants are assumed to receive housing vouchers. Research staff calculated annual rents by multiplying monthly fair market rents by 12 for both the treatment group and comparison group. After calculating annual rents, research staff then calculated an annual housing voucher for a participant. Vouchers are estimated by subtracting the 30 percent of the annual earnings that a voucher recipient pays toward rent from the annual cost of rent, as computed in Equation F.18 (see Appendix F).

Research staff assumed that each participant who qualifies for a voucher would receive it. Research staff make this assumption because lack of available data regarding which program participants received vouchers. As household size was not available for any of the three training programs, research staff used a family size of one as a conservative estimate for housing subsidy calculations.

Utility Services

Low-income residents in the City of Austin can receive many forms of utility assistance, such as rate reduction or bill payment assistance through programs administered by Travis County, the City of Austin, and local non-profit organizations. Research staff narrowed the scope of this ROI to one such program with particularly high enrollment, the City of Austin and Austin Energy's Customer Assistance Program (CAP).

Research staff measured the change in utility assistance received by training participants from pre-program to post-program. This change in utility assistance is a measurement included in the ROI to estimate the effects of the workforce training programs on the different stakeholders. Research staff classify a reduction in utility assistance due to an increase in earnings of workforce training participants as a benefit to the City of Austin and government accounts. From the perspective of the workforce training participant, a reduction in utility assistance due to increased earnings is classified as a cost to a training participant.

CAP reached about 38,000 rate payers monthly in 2016.¹² CAP assists low-income customers by reducing bills through fee elimination or rate reduction for electricity, water, wastewater, and trash collection services, a discount equivalent to \$54 a month or \$650 a year.¹³ CAP began an auto-enrollment process in 2014 to reach all low-income customers. The program automatically enrolls any Austin Energy customer participating in any of the following programs: Supplemental Nutrition Assistance Program (SNAP), Supplemental Security Income (SSI), Children's Health Insurance Program (CHIP), Telephone Lifeline Program, Medical Access Program (MAP), or Comprehensive Energy Assistance Program.¹⁴

Research staff estimated a participant's change in utility benefits before and after participating in one of the three workforce training programs. A first step is to compare a participant's annual earnings before and after the program to the CAP income eligibility limit. As CAP's enrollment is based on the set of programs listed above, research staff used a conservative approach, a low-estimator, by choosing the highest income threshold of all programs, CHIP. Therefore, a workforce development participant with an income at or below 200 percent of the FPL is considered to be enrolled in CAP. Research staff identified the annual income limits for a single-

family household at 200 percent FPL for each relevant year as reported by U.S. Department of Health and Human Services.¹⁵

Research staff estimated the percentage of the training participants with annual earnings above or below 200 percent FPL at each time period before and after participants received training. To estimate this percentage, research staff created a sampling distribution from aggregated RMC data; see Appendix F for more details on this process. The distribution was used to calculate the percentage of the sample population that falls at or below 200 percent FPL. This analysis is repeated for each time period before and after receiving training (see Equation F.23 in Appendix F).

Research staff then calculated the total utility assistance or benefits by multiplying the percentage of the sample population receiving utility assistance, the training group population, and the COA-reported annual average individual assistance of \$650. To calculate utility assistance per participant, total utility assistance provided can be divided by the number of trainees, as is indicated in Equation F.24 (see Appendix F). Research staff repeated this process for each workforce training program and each time period. Changes in utility assistance are calculated for all years after receiving training. Any loss of benefits represents a cost to training participants, a gain for the City of Austin, and a gain for government accounts, as indicated in Equation F.25 (see Appendix F).

If a participant's earnings increased above 200 percent FPL for a certain year, the average value of utility assistance would decrease. Participants would experience this increased expense as a cost as the result of the training program. If a change did not occur, a participant who had received utility assistance would still receive assistance; the change in average utility assistance would be \$0. With no change in earnings before and after the training program, government accounts will experience no change in utility assistance provided to training participants. Any increased costs to participants would in this case be a benefit to the City of Austin and to government accounts. If a participant's earnings increased after training to above 200 percent FPL for a certain year, less utility assistance would be provided to the training participant in that year. City of Austin and government accounts would accrue benefits through providing fewer funds towards utility assistance.

Research staff compared changes in utility assistance of training participants to changes in utility assistance of a comparison group to consider increased earnings that may not be associated with the training program. Research staff used the same methodology to calculate the change in utility assistance. After calculating changes for both training and comparison groups, the utility assistance benefit and cost estimation for the ROI is the difference between the change in utility assistance of each group for each year. Research staff assumed a normal distribution of participant earnings to estimate changes in utility assistance. Such an assumption may be inaccurate, as the actual income distribution may have a positive skew. A positive skew could decrease the number of participants computed to have earnings above 200 percent FPL and decrease the number using utility assistance. High standard deviations may be less prevalent at the post-program level. As no data are available to estimate the pre-program, post-program, and non-program earnings distributions, a normal distribution represents a reasonable assumption for estimating the number of training participants receiving utility assistance.

Sales Tax

Sales tax is defined as a direct tax on consumption that the State of Texas and local governments impose on purchased goods and services, typically calculated as a percentage of the sales price. In the City of Austin, that percentage is a flat 8.25 percent on purchases, excluding grocery food, motor vehicles, items purchased for resale, medical goods, and other items specified in the sales tax code.^{16,17} For example, a purchase of a \$10 book would require collection of an additional 83 cents of sales tax ($\$10 \times 0.0825 = \0.83).

Research staff measured sales tax increases due to increased annual incomes after training. Any increase in receipts of sales taxes represent a benefit to government accounts and the City of Austin. Sales taxes represent an increase in cost to a participant, as increased participant income leads to more purchases. Higher sales tax occurs due to the increased purchases after completing workforce training versus prior to the training program. As participants' incomes increase after the training program, participants will pay more taxes while governments will earn more tax revenue.

Due to confidentiality concerns, it was not possible to inquire as to any individual's tax payments. Research staff can estimate average sales tax changes by using a ratio: the average marginal increase of the sales tax to total income. Marginal increase is the change in state sales tax as percentage of total income, when moving to the next highest household income group. The new percentage is applied only to the portion of income in the new bracket. The resulting state sales tax expenditure in dollars is additive to the state sales tax expenditure in the previous bracket. The next marginal bracket has a lower tax as a percent of total income, which corresponds to the economic principle that a person's marginal propensity to consume decreases as income increases.

For example, consider a participant's income increasing from \$30,000 annually to \$40,000 annually after the training program. In this scenario, the participant was in the first quintile prior to the start of the program. After completing the program, her increased income pushes her into the second quintile. Sales tax as a percentage of total income is 6.7 percent for the first quintile. The top income limit of the first quintile is \$35,108. Sales tax as a percentage of total income is 3.7 percent for the second quintile. Multiply the top limit of the first quintile by 6.7 percent. Subtract the top limit of the first quintile from the new annual income (\$40,000). Multiply the resulting dollar amount by 3.7 percent. Add the two sales tax expenditure calculations together and multiply the ratio of total sales tax rate to state sales tax rate to find the current total sales tax expenditure in dollars for the participant. For each dollar, 76 percent of the collected total sales tax is transferred to the State of Texas and 24 percent to the City of Austin. Of the sales tax revenue collected by the City of Austin, half is earmarked specifically for the Capital Metropolitan Transportation Authority.

The Texas Comptroller of Public Accounts (TX CPA) estimated state sales tax as a percent of total income in five brackets by five household income groups (see Table 6.8). Research staff used these values as the marginal increase ratios for each household income group.¹⁸

Table 6.8.
Texas Sales Tax Incidence

Income Quintile	Household income	Amount (\$ billion)	Tax as a Percent of Total Income
1	Less than \$35,108	\$2,158.3	6.7
2	\$35,108 - \$61,522	\$3,157.1	3.7
3	\$61,522 - \$95,635	\$4,349.6	3.2
4	\$95,635 - \$146,699	\$5,945.4	2.8
5	\$146,699 and higher	\$9,403.4	1.5
Total		\$31,731.9	

Source: Texas Comptroller of Public Accounts, “Tax incidence report from CPA,” 2019.

Research staff estimated sales tax by multiplying the annual income by marginal ratios. Research staff then calculated the difference in the sales tax before and after the training program. The training and comparison groups’ changes in sales taxes are calculated by subtracting their pre-program sales taxes from years 1, 2, 3, 4, and 5. After calculating the change in sales taxes for both groups, the sales tax estimation measurement for the ROI component is the difference between the change in sales taxes in the respective year-period for each group.

Two assumptions used in this approach for estimating sales tax are that: (a) the average ratio supplied by TX CPA represents a marginal increase ratio, and (b) participant wage income is equal to household income. While neither assumption may be accurate, no information exists to justify another set of assumptions. Both assumptions are conservative, so as not to estimate unreasonable changes in sales tax expenditures or receipts.

Income Tax

If a workforce training graduate’s income increases, she or he will pay more in U.S. federal income taxes. Increases in the federal income tax from pre-program to post-program participant earnings would be a participant cost, but an increase for government accounts. In addition, as an individual earns more, he or she may fall into a higher income tax bracket, resulting in higher federal income tax rates.

Participant earnings and the marginal tax rate allowed research staff to estimate income tax receipts. The marginal tax rate is the change in federal income tax as percentage of total income when moving to the next highest income bracket. The new percentage is applied only to the portion of income in the new bracket. The resulting federal income tax can be added to federal income taxes from previous brackets.

Research staff used Tax Foundation tax bracket information to estimate the federal income tax marginal increase ratio to total income. This approach is similar to the method of estimating the cost of sales tax expenditure. The Tax Foundation, a leading independent tax policy nonprofit, reported IRS federal income tax rates paid by individuals, depending on their adjusted gross incomes (see Table 6.9). Individuals making more than \$79,655 annually pay an average rate of 18 percent on their income, while those making \$39,275 to \$79,655 pay a tax rate of 7.67 percent of their income. Individuals making less than \$39,275 are paying a tax rate of 3.59 percent of their income.

Research staff estimated federal income tax by multiplying the annual income by the marginal ratios in Table 6.9. Research staff calculated the difference in federal income tax before and after completing the workforce training program. The training and comparison groups' changes in income taxes are calculated by subtracting their pre-program income taxes from years 1, 2, 3, 4, and 5.

Table 6.9.
Average Federal Income Tax Rate by Adjusted Gross Income

	Bottom 50%	Between 25 - 50%	Top 25%
Income Split Point		\$39,275	\$79,655
Average Tax Rate	3.59%	7.67%	18.00%

Source: Erica York, "Summary of the latest federal income tax data, 2017 Update," Tax Foundation, <https://taxfoundation.org/summary-federal-income-tax-data-2017/>, accessed January 17, 2018.

There are a number of assumptions in the methodology that could lead to inaccurate results. One assumption is that the ratio provided by the Tax Foundation represents the marginal increase ratio of income tax to total income in each bracket. A second assumption is that each participant's wage income is equal to the family's adjusted gross income. These assumptions may not be accurate, but no alternative information exists to allow for more accurate estimates of incremental tax payments. These assumptions are conservative, in that they do not lead to overstating the change in income tax payments.

Limitations

One challenge in estimating a return on investment to participants, government accounts, and the City of Austin is that this study has only one available surrogate for personal income: the quarterly UI wage data obtained by the Ray Marshall Center from the Texas Workforce Commission. All ROI factors reflect this wage data as the sole proxy for income. Research staff lacked access to any individual's benefit status. Staff estimated eligibility for SNAP, housing assistance, and utilities assistance using wage data and benefit calculation formulas for each program.

Without information regarding training program participants' actual household size and other demographic information, staff made specific assumptions to ensure conservative estimates. Staff calculated household income and benefits assuming a household size of one. In reality, program participants are often members of households larger than one. Many training participants or their family members have other sources of income. Information on household composition and total income would have enabled research staff to develop more accurate eligibility and benefit estimates. Benefit coverage, or the share of eligible individuals actually receiving benefits, was assumed to be 100 percent. It is likely that some participants are eligible for public assistance based on wages but are not actually receiving such benefits, particularly for housing assistance, as the existence of waiting lists indicates less than complete coverage for eligible residents of Travis County. Using the assumptions, research staff could compare purchasing power before and after program completion even without access to specific information about a household's composition and income sources, including benefits.

This ROI methodology relied on aggregate or mean UI wage values to estimate the effect of program participation, not individual wage records. The available data include a cohort's average quarterly earnings prior to program participation and at various post-completion intervals. Earnings data for any specific individual participant were not available for this analysis. Based on earnings, the average program participant may be eligible for benefits prior to program participation but ineligible after program completion. Some participants may still fall below the income threshold even after completing a training program. Conducting this analysis at an individual participant level would allow for more accurate estimates of each program's outcome.

There are many other performance measures that could be included in an ROI analysis, including incarceration rates, home ownership, vehicle ownership/transportation costs, healthcare expenses and health insurance, other social welfare services, and the time value of participation. Some of these metrics are estimated in the analysis on social return on investment (see Chapter 8). These other performance metrics could not be included in the ROI portion of this study due to limitations on data and a dearth of publicly available information.

¹ Federal Reserve, Board of Governors, "Discount and Advance Rates – Requests by Nine Reserve Banks to Maintain the Existing Primary Credit Rate and Requests by Three Reserve Banks to Increase the Rate; Requests to Renew the Secondary and Seasonal Credit Formulas," News release, August 27, 2018, <https://www.federalreserve.gov/monetarypolicy/discountrate.htm>, accessed November 30, 2018.

² Smith and King, "Exploratory Return-on-Investment Analysis of Local Workforce Investments."

³ Texas Workforce Commission, "Aggregate UI Wage Data," Raw data, October 9, 2018.

⁴ U.S. Department of Agriculture, Food and Nutrition Service, "Nutrition Assistance," <https://www.fns.usda.gov/snap/supplemental-nutrition-assistance-program-snap>.

⁵ Center on Budget and Policy Priorities, "Texas Supplemental Nutrition Assistance Program," December 3, 2018, https://www.cbpp.org/sites/default/files/atoms/files/snap_factsheet_texas.pdf.

⁶ U.S. Department of Agriculture, Food and Nutrition Service, "SNAP Eligibility," <https://www.fns.usda.gov/snap/eligibility>.

⁷ Center on Budget and Policy Priorities, "A Quick Guide to SNAP Eligibility and Benefits," November 1, 2019, <https://www.cbpp.org/research/food-assistance/a-quick-guide-to-snap-eligibility-and-benefits>.

⁸ HUD User, Housing Finance Analysis Division, "Y 2020 Fair Market Rent Documentation System," https://www.huduser.gov/portal/datasets/fmr/fmrs/FY2014_code/2014summary.odn.

⁹ U.S. Department of Agriculture, Food and Nutrition Service, "Cost of Living Adjustment (COLA) Information," <https://www.fns.usda.gov/snap/cost-living-adjustment-cola-information>.

¹⁰ City of Austin, "Housing Authority Reopens Waitlist for Housing Voucher Program," <http://www.austintexas.gov/news/housing-authority-reopens-waitlist-housing-choice-voucher-program>, accessed December 7, 2018.

¹¹ Housing Authority of the City of Austin, "Become a Resident," <https://www.hacanet.org/resident/#eligibilityTabs2>, accessed September 10, 2018.

¹² Austin Energy, "Annual Performance Report," 2016, <https://austinenergy.com/ae/about/reports-and-data-library/corporate-reports>, accessed September 2018.

¹³ Austin Energy, "CAP Discounts," 2018, <https://austinenergy.com/ae/residential/your-bill/customer-assistance-programs/cap-discounts/cap-discounts>, accessed September 2018.

¹⁴ Ibid.

¹⁵ As the 200 percent FPL annual income varies depending on the amount of persons in a household, and no household data is available to research staff, research staff assumed a one-person household. U.S. Department of

Health and Human Services, “U.S. Federal Poverty Guidelines Used to Determine Financial Eligibility for Certain Federal Programs,” 2018, accessed September 2018, <https://aspe.hhs.gov/poverty-guidelines>.

¹⁶ People living in Austin are charged 6.25% for state sales tax plus 2% for local sales tax.

¹⁷ Texas Comptroller of Public Accounts, “Tax Exemption & Tax Incidence Report,” 2018, <https://comptroller.texas.gov/transparency/reports/tax-exemptions-and-incidence/>

¹⁸ The first assumption has a plausible reason; in the table, the tax as a percent of total income decreases as income brackets go up while the state sale tax ratio is held constant as 6.25%. It corresponds to the economic principle that the MPC decreases as the income increases and households with low income purchase relatively a lot of taxable items like foods or clothing compared to households with higher income when their income increases. On the other hand, applying the average ratio could result in an unreasonable case that the sales tax could decrease when the income goes up.

Chapter 7. Training Out of Poverty: An Empirical Return on Investment Analysis

This chapter reports the economic returns from participation in Capital IDEA, Goodwill, and Skillpoint Alliance to three stakeholders: program participants, government accounts, and the City of Austin. Participant ROI represents the net benefits of training to individuals who graduate from each program. Government accounts include supplemental costs at the local, state, and federal levels: indirect payments to workforce services, social services and benefits paid to trainees, and program operating costs. The City of Austin analysis includes costs directly attributed to the city’s budget and benefits to the local economy that result from training program operation.

For each program, research staff estimated the returns to each stakeholder at single-year intervals for five years after program completion, an aggregate return to each stakeholder, and an overall or total return on investment for each program and all programs together. The tables and figures in this chapter illustrate the levels of analysis conducted for each of the three programs.

Research staff classified ROI factors as returns or expenditures to each stakeholder. Returns represent a benefit to a stakeholder, while expenditures are considered a cost. Some factors may affect one stakeholder. Other factors may be classified as a benefit from one stakeholder’s perspective and a cost from another. For example, forgone earnings—the income that would otherwise be earned had an individual not participated in the program—represent a cost from a participant perspective, but do not have an effect on government accounts or the City of Austin. A decrease in SNAP benefits, on the other hand, is a “cost” to a participant and yet a benefit to government accounts. Table 7.1 lists how each ROI factor affects each stakeholder.

**Table 7.1.
Impact of ROI Factors on Stakeholders**

Measurement	Participants	Government Accounts	City of Austin
Increase in annual earnings	Benefit	N/A	N/A
Forgone earnings	Cost	N/A	N/A
Per-participant training cost	N/A	Cost	Cost
Decrease in participant SNAP assistance	Cost	Benefit	N/A
Decrease in participant housing voucher	Cost	Benefit	Benefit
Decrease in utility assistance	Cost	Benefit	Benefit
Increase in participant sales tax	Cost	Benefit	Benefit
Increase in participant income tax	Cost	Benefit	N/A

Source: Unpublished table developed by research staff, January 2019.

Research staff uses two metrics to calculate the economic return on investment for each program: the net present value (NPV) and the benefit-cost ratio (BCR). Net present value represents the

difference between discounted benefits (returns) and discounted costs (expenditures). An NPV greater than zero represents a positive economic return on investment, meaning the total benefits outweigh the total costs. The benefit-cost ratio is calculated by dividing the total benefits (returns) by the total costs (expenditures) to report the benefits incurred per each additional dollar spent on a project. A BCR greater than one indicates a positive economic return on investment.

Research staff calculated an NPV and a BCR for each program; both metrics provide an indication of a program’s impact and cost-effectiveness. The NPV and BCR values reported below should be considered “preliminary” for three key reasons. First, there is some uncertainty among the workforce programs as how to “count” participants and what “costs” count as costs. NPV and BCR individual figures do not represent the full consequences or outcomes from a workforce training program. There are other valuable metrics, such as employment or qualitative assessments of program outcomes, that could be used to estimate the economic impact of a program. Second, each benefit or cost component is estimated based on a series of assumptions in which readers may agree or disagree. A third issue is that many other factors that could be included in a construction of an NPV or BCR were not evaluated in this study due to data limitations. Some of those issues are addressed in Chapter 8 on the social return on investment.

Overall ROI to Stakeholders

Research staff estimated the overall return on investment for each program over a five-year period following program completion. Table 7.2 lists the total ROI to each stakeholder. The reported values are five-year aggregates, taking into account costs and benefits of program operation and participation across the entire time period. These figures can be broken down in greater detail by program.

Table 7.2.
Total Return on Investment to Stakeholders, Net Present Value
(Five-Year Aggregate)

	Participant	Government Accounts	City of Austin
Capital IDEA – NPV	\$37,666.20	-\$5,219.85	-\$11,403.71
Goodwill – NPV	\$15,093.81	-\$7,825.71	-\$2,806.16
Skillpoint – NPV	\$11,884.51	\$3,222.62	-\$1,219.97
Total – NPV	\$64,644.52	-\$9,822.94	-\$15,429.85

Source: Unpublished table developed by research staff, January 2019.

In general, all three programs saw positive returns to participants. ***The net return from all three programs was \$39,391.73, with a benefit-cost ratio of 1.97.*** The BCR indicates that for each dollar invested, programs generated almost two dollars in returns across all three stakeholders. Workforce training improves an individual’s income after training. Net returns to government accounts and to the City of Austin were negative over five years; neither produced cash flows from reduced social services or taxes that exceed program costs. Details are discussed below by program.

Annual ROI Results by Program

Research staff evaluated each program at one-year intervals for five years, determining the returns to each stakeholder over time. Tables 7.3, 7.4, and 7.5 list the annual returns to each stakeholder and to all stakeholders taken together (total).

The initial costs in the second column of these tables are attributed to the costs of program operation and participation. These costs are accrued during program participation and are recorded in year 1 of this analysis. Upfront costs of program operation and participation are the major driver of initial negative returns because they outweigh initial benefits. As benefits are realized in the form of increased earnings, net returns become positive.

Table 7.3.
Capital IDEA: Annual Returns

NPV	Initial Costs	Year 1	Year 2	Year 3	Year 4	Year 5
Total	--	-\$17,890.04	\$9,231.69	\$4,971.86	\$11,420.79	\$12,767.43
Participant	\$1,114.96	\$7,743.03	\$7,173.19	\$4,006.83	\$8,938.49	\$9,804.66
Government Accounts	\$14,765.95	-\$12,140.43	\$1,886.50	\$793.02	\$1,914.27	\$2,326.79
City of Austin	\$14,765.95	-\$13,492.63	\$712.91	\$172.00	\$568.03	\$635.98

Source: Unpublished table developed by research staff, January 2019.

Table 7.4.
Goodwill: Annual Returns

NPV	Initial Cost	Year 1	Year 2	Year 3	Year 4	Year 5
Total	--	-\$4,047.80	-\$2,940.20	-\$4,201.70	\$6,889.21	\$8,762.37
Participant	\$173.52	\$615.97	-\$105.77	-\$1,031.50	\$7,044.05	\$8,571.07
Government Accounts	\$1,321.22	-\$2,999.20	-\$2,169.10	-\$2,446.80	-\$266.27	\$55.58
City of Austin	\$1,321.22	-\$1,664.60	-\$665.32	-\$723.38	\$111.432	\$135.71

Source: Unpublished table developed by research staff, January 2019.

Table 7.5.
Skillpoint Alliance: Annual Returns

NPV	Initial Costs	Year 1	Year 2	Year 3	Year 4	Year 5
Total	--	-\$4,910.50	\$3,225.43	\$2,047.50	\$6,266.26	\$7,258.43
Participant	\$648.95	\$1,262.17	\$2,033.39	\$990.39	\$3,333.92	\$4,264.64
Government Accounts	\$3,641.67	-\$2,719.30	\$979.78	\$820.31	\$1,970.60	\$2,171.21
City of Austin	\$3,641.67	-\$3,453.30	\$212.25	\$236.79	\$961.73	\$822.57

Source: Unpublished table developed by research staff, January 2019.

Trend Analysis

Analyzing returns by year allows for a more nuanced understanding of a program's impact. While all three programs saw negative total returns for the first year after program completion, all three were delivering positive total returns by year 4, with Skillpoint and Goodwill seeing

positive returns by year 2. Positive returns were driven primarily by increases in returns to the participants. Returns to government accounts and to the COA were also positive by the end of the five-year period. All three programs saw a large increase in total returns from year 1 to year 2, followed by a dip in year 3, before again increasing in year 4 and peaking in year 5. It appears that participants experienced an incremental reduction in returns following gains made in the first or second year after completing the program. Both participant and overall returns rebounded by year 5. It would be beneficial to explore why the change in benefits shifts in the years immediately following completion of a training program, but that topic is beyond the scope of this report.

Participant Earnings

One desired outcome of workforce training is for participants to increase their wages. Research staff examined the quarterly earnings of training program participants and comparison groups that closely matched the demographics of trainees. Tables 7.6 to 7.8 list changes in participant earnings in each of the three workforce training programs.

Table 7.6.
Capital IDEA: Change in Participant Earnings

	Pre-Program	Year 1	Year 2	Year 3	Year 4	Year 5
Participants	\$5,132	\$7,409	\$8,274	\$8,429	\$9,547	\$10,692.08
Comparison	\$3,881	\$4,341	\$5,584	\$7,107	\$6,012	\$6,132.67
Difference	\$1,251	\$3,068	\$2,690	\$1,322	\$3,535	\$4,559

Source: Unpublished table developed by research staff, January 2019.

Table 7.7.
Goodwill: Change in Participant Earnings

	Pre-Program	Year 1	Year 2	Year 3	Year 4	Year 5
Participants	\$3,418	\$4,628	\$4,958	\$5,095	\$9,389	\$11,266.40
Comparison	\$2,564.86	\$5,900.48	\$6,745.43	\$7,553.85	\$8,172.52	\$9,480.12
Difference	\$853	-\$1,272	-\$1,787	-\$2,459	\$1,216	\$1,786

Source: Unpublished table developed by research staff, January 2019.

Table 7.8.
Skillpoint Alliance: Change in Participant Earnings

	Pre-Program	Year 1	Year 2	Year 3	Year 4	Year 5
Participants	\$2,423	\$5,008.20	\$5,529.53	\$5,877.15	\$6,699.95	\$7,637.94
Comparison	\$2,661	\$3,936	\$4,326	\$5,108	\$4,305	\$4,476.95
Difference	-\$238	\$1,072	\$1,204	\$769	\$2,395	\$3,161

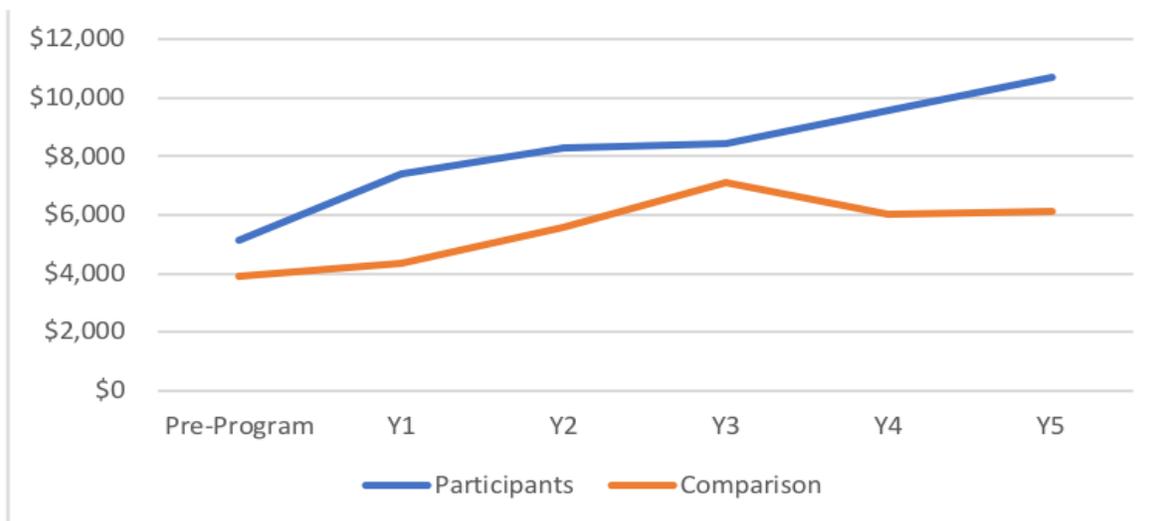
Source: Unpublished table developed by research staff, January 2019.

The comparison group is expected to have characteristics similar to training participants but without the training. Pre-program wages for the two groups were relatively close for the Skillpoint analysis, with the comparison group earning on average \$238 more each quarter than

program participants. For Capital IDEA and Goodwill, training program participants started off with relatively higher incomes on average than the respective comparison groups. By year 5 after program completion, all three groups of program participants were earning more than their respective treatment group. Goodwill participants saw the smallest year-5 gains relative to the comparison group, who out-earned training participants in years 1-3. This trend has some uncertainty, given the challenges of tracking program participants and because the wages of program participants used represent an average, as individual wages were not available to research staff. For example, it may be difficult to identify individuals similar to the population served by Goodwill, whose program aims to serve high-risk individuals seeking employment and life stability.

For all three programs, training participants earned more than the comparison group by a larger margin in year 5 than before program participation. Figures 7.1, 7.2, and 7.3 illustrate these widening margins.

Figure 7.1.
Capital IDEA: Participants' Quarterly Earnings

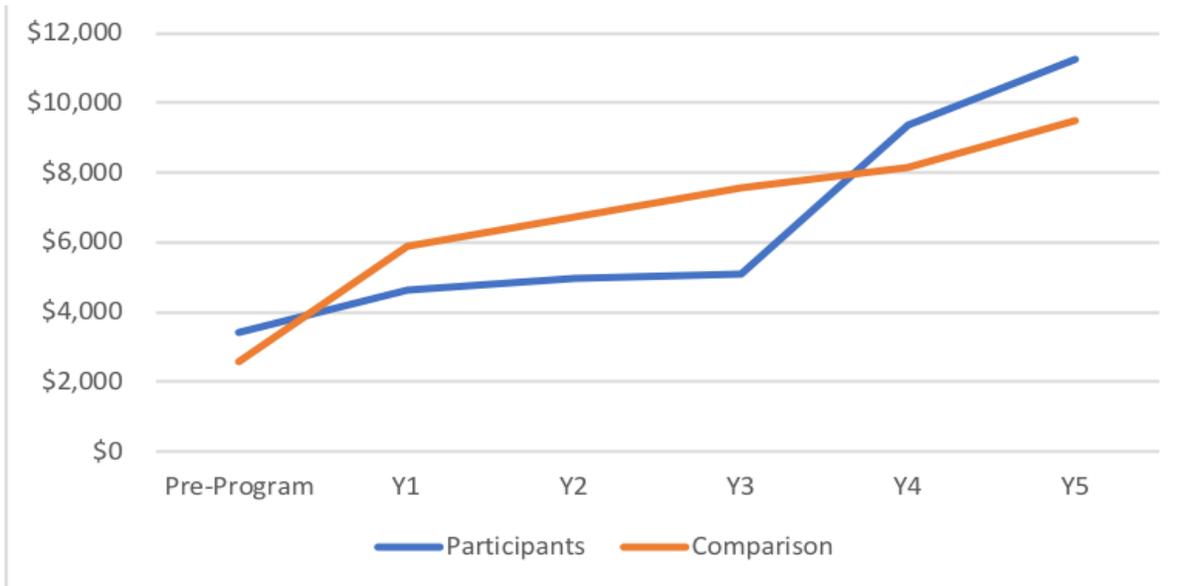


Source: Unpublished figure developed by research staff, January 2019.

Annual Returns to Stakeholders

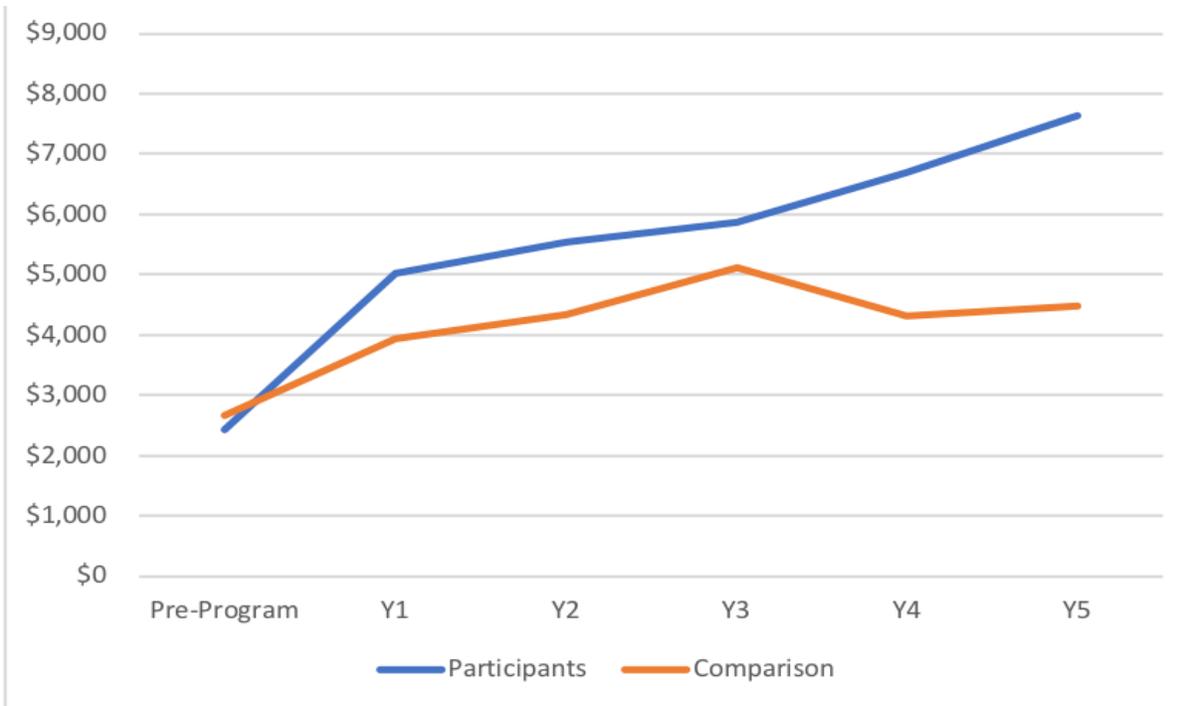
The City of Austin, as the underwriter of training budgets, would prefer an outcome where benefits increase to a level that would offset all training program costs. However, funding workforce programs may be a long-term investment, with benefits to various stakeholders being realized at different rates relative to when costs are accrued. Table 7.9 and Figure 7.4 illustrate the overall net return of all three programs to each stakeholder at each year post-program completion. Table 7.9 reports the total net present value of the three programs for each year from the perspective of each stakeholder, and Figure 7.4 illustrates the increasing net value of these programs over time.

Figure 7.2.
Goodwill: Participants' Quarterly Earnings



Source: Unpublished figure developed by research staff, January 2019.

Figure 7.3.
Skillpoint Alliance: Participants' Quarterly Earnings



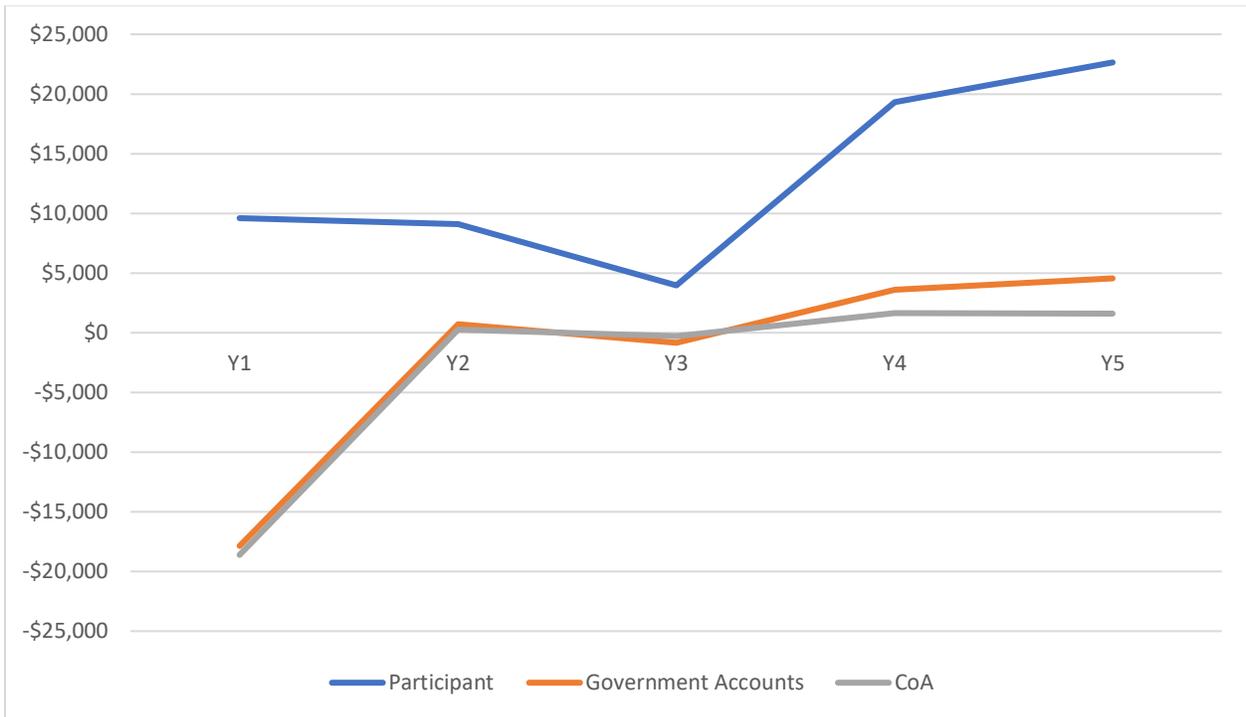
Source: Unpublished figure developed by research staff, January 2019.

Table 7.9.
Net Return on Investment to Stakeholders

	Year 1	Year 2	Year 3	Year 4	Year 5
Participants	\$9,621.17	\$9,100.80	\$3,965.72	\$19,316.45	\$22,640.37
Government Accounts	-\$17,858.89	\$697.18	-\$833.44	\$3,618.61	\$4,553.59
City of Austin	-\$18,610.58	\$259.85	-\$314.58	\$1,641.20	\$1,594.26

Source: Unpublished table developed by research staff, January 2019.

Figure 7.4.
Annual Net Return on Investment to Stakeholders



Source: Unpublished figure developed by research staff, January 2019.

The overall ROI analysis indicates a positive return to participants over five years, but a negative return to both government accounts and the City of Austin. Negative values appear to be driven by early costs, as net returns to both government accounts and the City of Austin are positive by year 4. Returns to participants and government accounts appear to continue increasing in year 5, with the COA's returns remaining relatively constant, seeing only a very slight decrease. If benefits could be estimated for a longer period, it is probable that the workforce training returns both to government accounts and to the COA would be positive, as many participants continue to earn more due to their training and experience. For this preliminary analysis, research staff chose to forgo calculating any returns beyond five years. An analysis of earnings projections for future years would enable the COA to estimate economic returns of training programs.

Sensitivity Analysis

Research staff conducted a sensitivity analysis to test if ROI results would change based on different assumptions. Changing key assumptions allowed research staff to observe changes in the results and determine if outcomes held. Research staff tested two factors underlying the ROI analysis: poverty level and household size. Returns to each stakeholder were recalculated under different conditions, adjusting the poverty threshold used to determine benefit eligibility from “very low income” to “extremely low income.” A second analysis shifted the household size from one to two, three, and four members. Table 7.10 lists the factors adjusted in the sensitivity analysis, the main assumptions of changing the parameter, and the potential outcomes of the sensitivity.

Table 7.10.
Sensitivity Analysis

Factor	Main Assumption	Potential Outcomes
High-poverty threshold	An increase in household size will result in expanded eligibility for benefits.	+ Net returns increase
Household size	Limiting benefit eligibility to extremely low-income households will result in fewer eligible households.	- Net returns decrease √ Net returns stayed within \$200

Source: Unpublished table developed by research staff, January 2019.

Table 7.10 lists the changes in net returns to participants, government accounts, and the COA when using a high-poverty threshold for SNAP and housing voucher benefit eligibility. A plus sign indicates that net returns increased when using a high-poverty threshold. A negative sign indicates that net returns decreased. A checkmark indicates that net returns stayed within \$200 of the initial figure calculated.

Table 7.11.
Net returns to Stakeholders with “Extremely Low-Income” Threshold

Stakeholder	Program	Initial ROI	Extreme Poverty
Participant	Capital IDEA	\$37,666.20	+
	Goodwill	\$15,093.81	-
	Skillpoint	\$11,884.51	-
Government Accounts	Capital IDEA	-\$5,219.85	√
	Goodwill	-\$7,825.71	-
	Skillpoint	\$3,222.62	√
City of Austin	Capital IDEA	-\$11,403.71	√
	Goodwill	-\$2,806.16	√
	Skillpoint	-\$1,219.97	-

Source: Unpublished table developed by research staff, January 2019.

Most of the ROI estimates change when adjusting the income limits for benefit eligibility to qualify only high-poverty households. Given that the ROI analysis is based on average participant earnings, it is likely that at least some training program participants meet the extreme

poverty threshold at some point, especially prior to program enrollment. Estimates change more for returns to government accounts and little for the COA. Changes in eligibility primarily affect benefits funded by the State of Texas.

Research staff also calculated returns for larger household sizes, holding earnings constant (i.e., assuming a single-income household) while loosening the constraints for benefit eligibility and increasing the value of benefits received by eligible households. Table 7.11 illustrates the changes in net returns when households have two, three, or four members.

Table 7.12.
Return on Investment with Increased Household Size

Stakeholder	Program	Initial ROI	HH 2	HH 3	HH 4
Participant	Capital IDEA	\$37,666.20	+	+	-
	Goodwill	\$15,093.81	-	+	-
	Skillpoint	\$11,884.51	-	-	√
Government Accounts	Capital IDEA	-\$5,219.85	-	-	+
	Goodwill	-\$7,825.71	-	-	-
	Skillpoint	\$3,222.62	+	+	+
City of Austin	Capital IDEA	-\$11,403.71	√	√	√
	Goodwill	-\$2,806.16	√	√	-
	Skillpoint	-\$1,219.97	-	-	-

Source: Unpublished table developed by research staff, January 2019.

Many workforce training graduates live in multi-member households and have dependents. Some households may have multiple incomes. True returns for households of four members are different from those of one-person households.

Discussion

ROI analysis results generally indicate positive trends and returns to each of the three stakeholders. Examining returns on an annual basis allows for a more nuanced analysis than looking only at the total returns to each stakeholder over the five-year window. Returns to government accounts and the COA that are negative are driven by early training costs. Returns to all stakeholders are net positive by year 4.

Each program is distinct in terms of the population it seeks to serve. These characteristics are not reflected in ROI results. For example, Goodwill serves members of some of Austin’s most vulnerable populations. In this case, the program’s immediate priority is providing clients with financial stability through employment.

The ROI analysis was conducted over a five-year window following completion of each program. The costs of training each participant were captured as early costs. Participants’ relative increase in earnings occurs over time. It is unlikely that program outcomes can be fully realized within five years. For example, Capital IDEA provides intensive services to program participants over the course of a multi-year curriculum; the cost of these services is reflected in per-participant costs, recorded as year 1 expenditures. One benefit of this program is that a

graduate will receive an associate degree, the benefits of which may not be realized within the five-year window observed in this analysis.

Earnings may continue to increase over time, and participants' overall quality of life may improve over the course of his or her lifetime relative to where he or she would have been without participating in the program. The ROI may be higher over a longer time period, as benefits continue to outweigh training costs. The major costs of these programs—training costs and forgone participant earnings—are accrued during program participation and are recorded in year 1 of the analysis. As benefits are realized over time, primarily in the form of increased participant earnings, the returns increase such that they outweigh the initial costs of programs. The difference in when costs and benefits are realized explains why net returns are initially negative and become positive in future years.

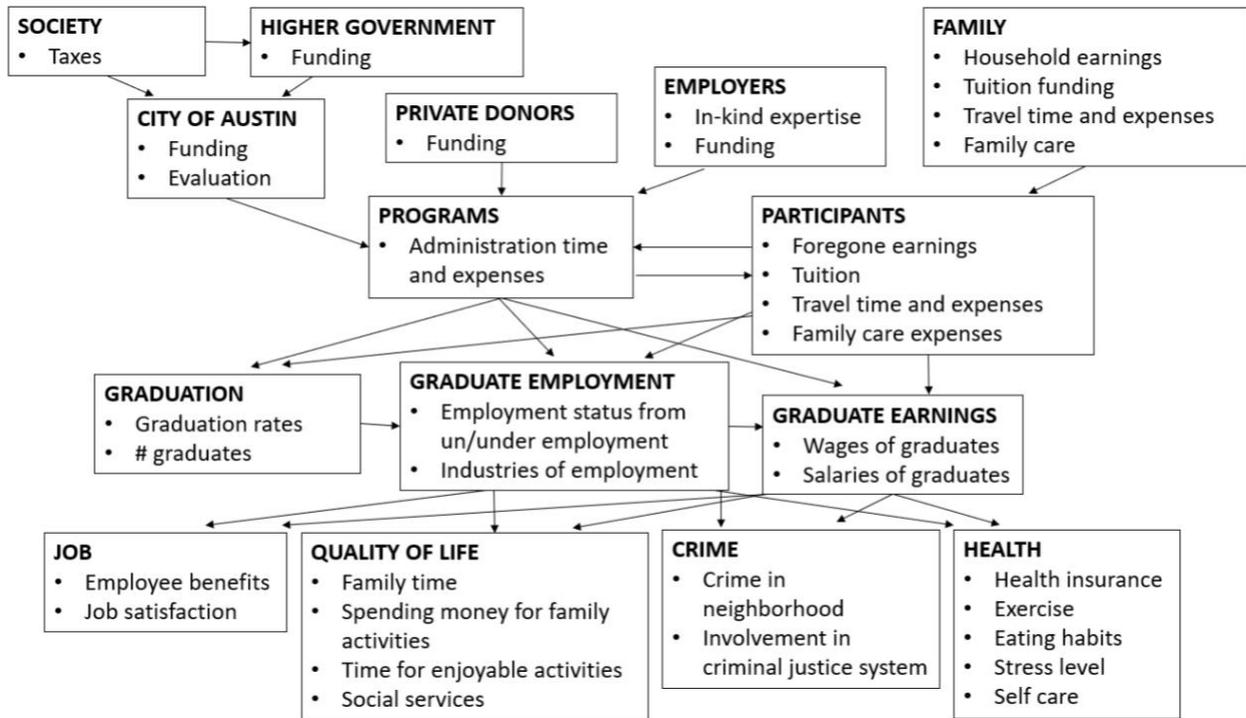
Returns to participants were calculated by comparing the earnings of program graduates to an identified comparison group. While the comparison group serves as a counterfactual, it has limitations. Other than basic demographics and quarterly earnings, research staff had no information about household characteristics, lifestyle, education, or any number of factors that may affect an individual's employment and earning outcomes. A better test would compare participant and comparison groups that are as similar as possible, so as to isolate the effect of program participation. The technique of "propensity score matching" represents the best method available to the research staff to create comparison groups. It poses a challenge for extremely vulnerable populations, such as persons who have very low incomes, experience homelessness, have recent experiences with incarceration, or lack financial security for other reasons.

The methodology used in this analysis relied on aggregate values for participant and non-participant earnings. In other words, all computations used an average participant analysis during each quarter, before enrolling in the program, and for five years post-completion. Lack of access to data on individuals, including demographics and other household characteristics, was a limitation in estimating returns to each stakeholder. One recommendation for the COA would be to explore ways for the Texas Workforce Commission to collect de-identified, longitudinal, individual income data.

Chapter 8. Do Austin Training Programs Improve the Lives of Participants? Analysis of Social Returns on Training Investments

This chapter develops methods to estimate the economic value of social returns of job-training programs. The methods seek to estimate economic returns to key stakeholders. The public sector often relies on an economic perspective to measure and account for returns on investments. Research staff used wage data to estimate an economic return on investment (ROI) as shown in Chapter 7. The ROI analysis, although valuable as a measurement tool, excludes many key program impacts. Research staff sought to create a social return on investment (SROI) analysis to supplement the economic ROI, as the SROI focuses on larger socio-economic outcomes not directly tied to wages. Due to limitations on available data, research staff evaluated the social returns of Capital IDEA, Skillpoint Alliance, and Goodwill program completion in this SROI in an aggregate nature, without making distinctions or comparisons among the programs analyzed.

Figure 8.1.
Analysis of Social Returns



Source: Unpublished figure created by research staff, January 2019.

Figure 8.1 demonstrates the complexity of the analysis of social returns of job-training programs. Multiple inputs from stakeholders funnel into multiple program outputs, which lead to multiple potential social outcomes of program participation. Inputs from stakeholders such as taxes from society, funding from governmental entities and private donors, and support from participants’

families and employers contribute to the programs and to the participants themselves. The completion of job-training programs by participants leads to three primary outcomes identified by research staff: graduation, graduate employment, and graduate earnings. These outcomes all contribute to job satisfaction, quality of life, reduced criminal involvement, and improved health, the four social outcomes of job-training program completion analyzed in this chapter.

SROI Analysis

An SROI evaluation of the workforce training programs identifies social consequences of training programs, including but not limited to consequences to the training participants and the COA. Research staff developed the SROI methods to estimate changes in quality of participants' lives based on direct feedback from program graduates. Using this information, programs can monitor and implement potential changes for program improvement.

Research staff estimated training programs' SROI based on four social outcomes of training program completion: changes in involvement in crime, changes in quality of life, health outcomes, and changes in job satisfaction. Research staff would have liked to have analyzed each of the four outcomes using additional measurements to those included in this analysis. Table 8.1 lists measurements research staff would have preferred to analyze outcomes, whether or not each measurement was included in this analysis, and the reason (if not included) why the measurement was excluded from the analysis.

Table 8.1.
Methodology of Social Return on Investment

Outcomes Analyzed	Measurements Desired	Inclusion in SROI?	Reason if Not Included
Crime	Criminal involvement	Included	
	Neighborhood safety	Not included	Lack of data
Quality of Life	Family time	Included	
	Family expenditures	Included	
	Social service(s) use	Included	
	Social time	Not included	Lack of data
	Leisure time	Not included	Lack of data
	Commute duration	Not included	Time constraints
Health	Health insurance	Included	
	Exercise habits	Included	
	Dietary habits	Included	
	Urgent care visits	Not included	Time constraints
Job Satisfaction	Fringe benefits	Included	
	Retention savings	Included	
	Workplace quality	Not included	Lack of data

Source: Unpublished table created by research staff, January 2019.

Specific language is used when referring to various elements of this SROI. The term “stakeholders” refers to people, organizations, or entities that experience either positive or negative change as a result of the programs in question. Inputs are resources (monetary, material, human, time, etc.) provided by each stakeholder that are necessary for the program to take place. “Outputs” are quantitative descriptors of the effects of a program as a direct result of inputs from

stakeholders. “Outcomes” are the changes resulting from a program’s services and activities. This SROI assesses the short- and medium-term outcomes of the training programs. An impact map is a figure that shows how a program uses its resources to provide services that contribute to particular outcomes for given stakeholders in the program.

Social return on investment analysis of Capital IDEA, Goodwill, and Skillpoint Alliance training programs includes inputs from the following stakeholders: society, the City of Austin, higher levels of government, private donors, employers, families, programs, and participants. This analysis on the programs includes the outputs of graduation, graduate employment, and graduate earnings. Outcomes are organized into four categories: job, quality of life, crime, and health.

Tables 8.2 through 8.4 outline the various inputs, outputs, and outcomes from the training programs. Society pays taxes to the City of Austin and to state and local governments. Those levels of government provide funding to the City of Austin for workforce training. The City of Austin, private donors, and employers contribute funding to workforce training programs. The City of Austin enables program evaluation. Employers provide in-kind services to training programs. Families contribute household earnings, tuition funding, travel time and expenses, and family care to the participants. Participants forgo earnings, tuition, travel time, expenses, and family care expenses to be able to participate in the programs. The training organizations contribute administration, educational opportunities, and other diverse services.

Program inputs from the COA and participants lead to graduation, graduate employment, and graduate output earnings. Graduation outputs can be described on the basis of graduation rates or raw numbers of graduated participants. Graduation leads to employment, which can be described on the basis of employment status of graduates (unemployment, underemployment, or appropriate employment). Graduate employment contributes to graduate earnings, measured as wages or salaries. Graduate employment and graduate earnings contribute to outcomes such as job satisfaction, improved quality of life, reduced crime, and better health.

Table 8.2.
Social Return on Investment Inputs

Inputs	Stakeholders
Taxes	Society
Funding	City of Austin Higher governments Employers
Evaluation	City of Austin
Expertise	Employers
Tuition	Family Participant
Travel time	Participant
Forgone earnings	Family Participant
Expenses	Family Participant
Administration time	Programs

Source: Unpublished table created by research staff, January 2019.

Table 8.3.
Social Return on Investment Outputs

Outputs	Stakeholders
Graduation	Programs Family Participant
Graduated employment	City of Austin Employers Programs Family Participant
Earnings	Society City of Austin Family Participant

Source: Unpublished table created by research staff, January 2019.

Table 8.4.
Social Return on Investment Outcomes

Outcomes	Definition	Stakeholders
Job	Value of employment beyond wages including employee fringe benefits and employer savings from increased retention rates	Family Participant
Quality of life	Value of changes in time and money invested in participants' families and changes in social services used	Family Participant
Crime	Savings associated with changes in participant's criminal involvement	Society Travis County Family Participant
Health	Savings and costs associated with changes in health insurance status, exercise habits and dietary habits	Employers Family Participant

Source: Unpublished table created by research staff, January 2019.

There are many potential returns to stakeholders tied to the job outcome of program participation. Participants may benefit from increased job satisfaction following program completion. Their families may benefit from the positive impact on participants. Employers may benefit from higher retention among employees who have completed these programs. Research staff were able to monetize social returns for the job outcome to participants and employers. The job outcome was analyzed annually for a four-year period following program completion and was evaluated based on the returns to participants and to employers. Participant returns in the job outcome were measured using fringe benefit estimates. Employer returns in the job outcome were measured using estimates for employee retention savings.

Regarding the quality of life outcome, participants may benefit from positive changes in their home lives following program completion, and their families may also benefit indirectly from these positive changes. Research staff were able to monetize social returns for the quality of life

outcome to participants only. The quality of life outcome was analyzed on an annual basis following program completion. This outcome was evaluated based on monetization of the changes in social program participation experienced by participants following program completion and monetization of changes in participants’ time spent with families following program completion.

The “crime” outcome provides potential returns to program stakeholders. The county and state may benefit from savings on criminal justice expenses. Society is invested in these governmental expenses as they are funded through taxpayer dollars. Participants may benefit from changes in criminal involvement following program completion, and their families may benefit from the positive impact on participants. Research staff were able to monetize social returns for the crime outcome to Travis County and to the State of Texas. The crime outcome was analyzed based on participant criminal involvement data and incarceration expense estimates for the county and the state, respectively.

The health outcome potentially results in returns to several program stakeholders. Participants may benefit from changes in health habits and care following program completion, their families may benefit from the impact these changes have on their habits and care, and employers of participants may benefit from changes in work performance tied to employee health. Research staff were able to monetize social returns for the health outcome to participants only. The health outcome was analyzed on the basis of estimated expenses to the participants associated with changes in health insurance and dietary habits, and monetization of the value of changes in participant exercise habits.

Table 8.5 lists the sources used by the research staff in creating the methodology for each outcome of interest. The majority of the sources are from peer-reviewed research journals or well-known advocacy groups. Although each of these evidence-based sources is useful, there is some uncertainty associated with their relevance, as they may be extremely context-specific and lead to inexact proxies when used with COA workforce programs. However, this limitation is unavoidable. The rest of the information used in the methodology is derived from interview and survey responses gathered by the research staff.

Table 8.5.
Data Sources for Social Return on Investment Indicators

Outcomes	Sources of Data/Proxies
Job	Bureau of Labor, UI wage data
Quality of Life	Interview and survey responses
Crime	Texas Criminal Justice Coalition, Texas Public Policy Foundation, interview and survey responses
Health	Journal of the American Heart Association, Behavioral Health Journal, British Medical Journal, interview and survey responses

Source: Unpublished table created by research staff, January 2019.

The following sections explain, analyze, and evaluate each of the four outcomes. See Appendix G in the online appendices for the equations used in the methodology to convert outcomes into economic surrogates.

Job Satisfaction Outcomes

Two typical benefits for employment beyond increased wages are job satisfaction and fringe benefits. Participants’ job satisfaction leads to social return to participants, employers, the COA, Texas, and society.

Research staff estimated the value of employee fringe benefits as well as employees’ willingness to pay for job satisfaction. Employees’ improved productivity would be a useful metric, but such data were not available to research staff. Research staff used UI wage data to monetize the value of fringe benefits and employee retention savings, a proxy for job satisfaction. Employers save money from higher rates of employee retention. Employee satisfaction can lead to higher rates of retention and thus opportunities for promotion and increased earnings.¹ Dissatisfaction with one’s employment, conversely, may lead to lower productivity at work, such as more sick days and time off, which would be a cost to employers, the COA, the State of Texas, and society. This study did not collect other employee or employer performance measures of employee satisfaction and dissatisfaction, so any further accounts are beyond the scope of this report.

Interview data provide evidence to changes in employee fringe benefits. About 71 percent of interview respondents indicated an increase in employee fringe benefits upon employment, including sick leave, paid vacation, health insurance, paternity/maternity leave, and retirement benefits (n=71). Before entering one of the three programs, the average number of employee benefits was 2.38. This number increased to 5.09 after program completion. In terms of overall job satisfaction, 85 percent of respondents stated that their employment satisfaction increased after participating in the program (n=41).

Table 8.6 lists the relevant stakeholders for job satisfaction: program participants, employers, the City of Austin, the State of Texas, and society. Participants’ benefit from improved job satisfaction can be estimated using fringe benefits, which tend to increase with wages. Employers’ benefit can be quantified using turnover costs, which tend to decrease as employees are more satisfied in their positions. The City of Austin, State of Texas, and society benefit broadly from higher productivity, although commenting on improved productivity is beyond the scope of this report.

Table 8.6.
Job Satisfaction Outcome Stakeholders

Stakeholder	Value	Measurement
Participant	Increased Fringe benefits	\$0.30 for every \$1 increase in wages
Employers	Decreased turnover costs	\$0.20 for every \$1 increase in wages
City of Austin	Higher productivity	N/A
State of Texas	Higher productivity	N/A
Society	Fewer costs imposed on society	N/A

Source: Unpublished table created by research staff, January 2019.

Research staff used UI wage data to calculate average wage increases for each program participant. Research staff estimate that fringe benefits account for about 30 percent of total employee benefit.² Fringe benefits for program participants were estimated using \$0.30 of fringe benefits for every \$1 in increased wages.

Research staff proxy-estimated cost savings that firms reap through lower turnover rates from satisfied employees. According to the U.S. Bureau of Labor, employers spend around 20 percent of an employee’s annual income searching, recruiting, and training a new employee.³ That rate also can be used to estimate an employee’s benefit for increased job satisfaction using \$0.20 of reduced retention costs for every \$1 in increased wages. Research staff estimated both employee fringe benefits and reducing employee retention costs over the four years after program graduation. Benefits were then discounted at a rate of 2.5 percent.

Table 8.7 shows the positive relationship between wages and both employee fringe benefits and employer savings. Research staff highlighted year 4 results, as research indicates that participants reap significant benefits starting four years after training completion.

**Table 8.7.
Employee Benefits and Employer Savings**

Employee Benefits				
Year Out of Program	1	2	3	4
Discount Rate	2.5%	2.5%	2.5%	2.5%
Employee Benefits	\$2,289.13	\$2,975.41	\$3,231.67	\$6,770.09
Employee Benefits (Discounted)	\$ 2,233.30	\$ 2,832.03	\$ 3,000.92	\$ 6,133.37
Employer Savings				
Year Out of Program	1	2	3	4
Discount Rate	2.5%	2.5%	2.5%	2.5%
Employer Savings	\$ 1,526.09	\$1,983.60	\$2,154.44	\$4,513.39
Employer Savings (Discounted)	\$ 1,488.87	\$ 1,888.02	\$ 2,000.62	\$ 4,088.91

Source: Unpublished table created by research staff, January 2019.

Research staff estimated positive employee fringe benefits, increasing each year post-graduation. On average, participants earned \$6,133 in fringe benefits four years after program graduation. Research staff also estimated positive employer savings. Employers saved \$4,088.91 in decreased employee turnover costs four years after program graduation. As stated, the most significant result is in the fourth year after program completion. Employee benefits and employer savings in year 4 more than doubled from the previous year, driven by the significant wage increase from year 3 to year 4.

One limit to this approach is that data exist on average wage increases only. Specific Austin data and actual program participants’ fringe benefits and retention costs would improve the study. Data describing productivity costs for the City of Austin, State of Texas, and society would also improve outcome estimations for these unmonetized stakeholders. Because research staff use average percentage estimates for both increased employee fringe benefits and decreased retention costs, true results may differ from this estimation.

Quality of Life

Research staff estimated an economic value from improved quality of life outcomes of program completion on the basis of graduates' changes in time with family, money spent on family activities, and the number of social services. Quality of life is considered as an important outcome for analysis of social returns because it represents participants' general well-being. Program participants' and their families' lives are affected by changes in participants' time with family, money spent on family activities, and the number of social changes. They would benefit from increased time and consumption for family and would lose benefits due to decreased social services. The public sector including governments is also a stakeholder, as a participant's change in social services affects the public sector's costs to provide social services.

Table 8.8.
Quality of Life Outcome for Stakeholders

Stakeholder	Value(s)	Measurements
Participants and Families	Increased time with family	Opportunity cost of time
	Increased consumption for family	Changes in money spent
	Decreased social service benefits	Changes in the number of social services for participant
Public sector	Decreased social service costs	

Source: Unpublished table created by research staff, January 2019.

If a participant decides to increase time with her/his family, it may indicate that a participant wants to expand leisure time instead of work. The value of leisure time can be estimated at its lowest bound by the opportunity cost, or the wage rate. A participant implicitly values spending more time with their family or enjoyable activities at a rate at least as the value of additional income which they could earn if they worked more hours. To monetize family time, research staff estimated the opportunity cost of time with changes in time and hourly wage: the value for family time increases by a participant's hourly wage for a one-hour increase in time with family. Research staff ask participants to indicate any change in money they spent with family to estimate material benefits for participants and families. It is beyond the scope of the methodology to estimate the value of changes in social services from interview data, i.e., interviews contain information only about the number of social services that participants receive, not about how much benefit they receive from social services.

Research staff found that 63.6 percent of respondents who provided information on "time with family" stated that their time with family increased after program completion (n=77). Participants who reported changes in time with family indicated an average increase in time with family of 9.76 hours per week (n=21). Multiplying time by a participant's average hourly wage, the average value for changes in time with family equals \$227 per week. For participants who provided information on an average change in money spent on family matters, the average value is \$306 per week (n=55). Increased time and money spent with family are some components that change the quality of life. Based on these two results, a participant was estimated to receive an additional positive return on investment of about \$533 per week, or \$27,716 per year.

The average number of social services that a participant receives fell by 1.32, from 1.81 to 0.49 (n=95). These social services changes may affect their level of financial support from the public sectors; government costs will drop if participants' benefits from social services decrease.

Research staff would have preferred to value each stakeholder's quality of life change considering all participants' leisure activities and benefits from various social services. If research staff had information about changes in participants' time and consumption for their enjoyment and information about the change in monetized benefits from social services, they could have estimated the monetary value to all the stakeholders. Due to limited information, research staff only were able to estimate participants' changes in time with family, money spent on family activities, and the number of social services received. Any more complete financial estimates of changes in social services are beyond the scope of the report.

Crime Outcome

Research staff measured the crime outcome of training program completion on the basis of graduates' involvement in the criminal justice system before and after program completion. Crime was considered to be a useful metric to include in analyzing program social returns because of the high cost of incarceration expenses to governmental entities and the taxpayers who fund these expenses. Program participants and their families are also stakeholders impacted by changes in participants' involvement in crime.

Five stakeholders, including participants, their families, Travis County, the State of Texas, and society, are impacted by changes in participants' criminal involvement following training program completion. Participants benefit from earnings made during the time they would have forgone earnings while taking part in court proceedings and when incarcerated. Families benefit from earnings, savings on court costs, and decreased reliance on family members for family care. Travis County and the State of Texas benefits from savings on incarceration costs for individuals who would have become incarcerated without program completion. Society benefits from governmental savings on incarceration costs, as the funds for these costs are acquired from tax dollars.

Table 8.9.
Crime Outcome Stakeholders

Stakeholder	Value(s)	Measurement
Participant	Forgone earnings	Unknown
Family	Forgone earnings Court costs Family care	Unknown
Travis County	Incarceration costs	TCJC
State of Texas	Incarceration costs	TPP
Society	Taxes allocated toward incarceration costs	Unknown

Source: Unpublished table created by research staff, January 2019.

Criminal involvement among workforce training graduates dropped from 19.5 percent pre-program to 0 percent post-program completion, as reported in participant interview and survey responses. Of interview and survey respondents who provided information on their involvement in the criminal justice system, 19.5 percent indicated that they were involved in the justice system before entering their training programs (n=82). Zero percent of interview respondents who provided information on this involvement reported continued involvement in the justice system after program completion (n=58). Incarceration costs Travis County \$59 per day per individual incarcerated (Texas Criminal Justice Coalition). The State of Texas spends an average of \$51 per day per individual incarcerated (Texas Public Policy Foundation). The 19.5 percent reduction in criminal involvement among participants can be multiplied by the cost of incarceration to Travis County and to the State of Texas, respectively, to calculate savings resulting from participant program completion to the city and the state.

The SROI model assumes that the 19.5 percent of respondents with reported previous criminal involvement would have had a high propensity of becoming incarcerated again in the absence of training program participation. Thus, Travis County reduces incarceration costs by an estimated value of \$21,535 per year for roughly 1 in 5 program participants graduated, or around \$4,199 per year per participant graduated. The State of Texas receives a positive return on investment of about \$18,615 per year for 1 in 5 participants graduated, or around \$3,630 per year per participant graduated. Thus, participant completion of training programs benefits both the city and the state. State costs likely have implications on expenses in higher levels of government as well, thus higher levels of government as a whole receive a positive return on investment of at least \$3,630 per year per participant graduated. This is likely underreported.

In principle, research staff would have wished to monetarily measure the value to each stakeholder in the crime outcome of program participants' changes in criminal involvement and their perceived exposure to crime before and after program completion. With full information, research staff would have estimated the value of changes in criminal involvement and crime exposure with regards to all stakeholders impacted by these changes, including not only Travis County and the State of Texas, but also the U.S. federal budget, the participants themselves, their families, and society. For participants, the value could be based on the price that participants would pay to prevent involvement in the criminal justice system and to prevent crime in their neighborhoods. For families, the value could be based on the price that families would pay to prevent participants from being involved in the criminal justice system and to prevent crime in participants' neighborhoods. For Travis County, the State of Texas, and the U.S. Federal Government, the value could be based on the full cost of arrests, detention, and incarceration to each government entity.

Due to a lack of access to data on participant criminal involvement, research staff analyzed the crime outcome in this SROI on the basis of respondents' self-reported criminal involvement before and after program completion in the participant surveys and interviews. Values were assigned to the crime outcome based on the annual costs of incarceration to two of the stakeholders for which monetization of the outcome was possible, Travis County and the State of Texas. Research staff were unable to capture the value of participant exposure to crime or the value of the crime output to participants, families, and society due to a lack of data for measurement of values to these stakeholders.

Health Outcomes

Health was considered to be an SROI outcome because of the significance of health for program stakeholders. The life and livelihoods of program graduates and their families are affected by the physical and mental health status of each participant. Employers are also invested in the health status of graduates because the health status of their workers affects their productivity. The health outcome in this SROI was analyzed based on the participant’s health insurance status, exercise habits, and eating habits before and after program completion. Values were assigned to the health outcome based on the savings and costs associated with having health insurance, a change in exercise habits, and healthier eating habits.

Participants and employers are key stakeholders for health outcomes (see Table 8.10). Participants’ benefit from changed health outcomes can be quantified using the savings and costs associated with having health insurance and healthier habits. Research staff calculate increased costs to participants to improve health outcomes. Health insurance incurs a monthly premium, an increased cost to the participant after graduating the program. Healthier food choices can be more expensive, leading to an increased cost to the participant after graduating the program. Increased time spent exercising may reduce health costs. The overall net return from health investment is still negative. Employers may benefit from increased productivity, a calculation that is beyond the scope of this project.

Table 8.10.
Health Outcome Stakeholders

Stakeholder	Value(s)	Measurement(s)
Participant	Fewer costs associated with poor health Quality of life	Savings associated with health insurance Savings associated with daily exercise Cost associated with healthier eating habits
Employer	Higher productivity	Unknown

Source: Unpublished table created by research staff, January 2019.

Research staff used interview data to estimate the value of changes in health insurance status, exercise habits, and healthier eating patterns. Fifty-nine percent of interview respondents who provided information on their health insurance status indicated that they had health insurance before they began the training (n=79). After the program, 86 percent of the interview respondents indicated they had health insurance. About 27 percent of participants gained health insurance benefits as a result of the program, which is beneficial to an individual’s health outcomes. The average cost of insurance after the program was found to be \$182.07. To calculate the financial impact of a change in health insurance status, the research staff estimated the average amount of times an uninsured patient would visit the emergency room (ER) compared to an insured patient. Studies show that 12.2 percent of uninsured patients visit the ER in a year compared to 11.1 percent of insured patients.⁴ Uninsured patients generally pay the entire sum of the visit out-of-pocket while insured patients pay a copay or negotiated amount. The average ER bill for an uninsured patient was found to be \$1,233⁵ compared to the bill for an insured patient, which was \$150 on average.⁶

Research staff multiplied the average rate of ER visits if uninsured by the average cost of an uninsured ER visit, and made a similar calculation for an insured patient. Research staff added the results for the insured patient to the average cost of insurance after the program and subtracted the sum from the results for the uninsured patient. This equation represents an estimate of the cost of the move from being uninsured, accounting for ER visits, to being insured with a monthly premium, again accounting for ER visits.

An analysis of interviews shows that before the program, participants exercised on average 2.88 hours per week (n=64). After the program, participants exercised on average 3.52 hours per week (n=63). Thus, participants exercised about 40 minutes more per week on average after graduating the training program, which is potentially beneficial to an individual's health outcomes. Studies show that 150 minutes of exercise per week saves an individual an estimated \$2,500 annually.⁷ Research staff calculated the additional time a participant spent exercising after training as a percentage of 150 total minutes to estimate the percentage of participant savings out of a total potential savings of \$2,500 annually.

More than half of interview respondents indicated that they felt their eating habits were better after versus before graduating the training program, quoting "more vegetables, less red meat, etc." (n=76). Better eating habits might lead to better health outcomes for an individual. One study estimated that it costs \$1.50 a day more on average to have a healthy diet versus a less healthy diet.⁸ To calculate the expense of better eating habits, research staff multiplied the daily cost of having a healthy diet by the number of days in a year.

Research staff estimated that as a result of gaining health insurance after graduating the training program, participants spent \$170.92 more a month on health insurance premiums after graduation. This is a negative return for the participant. In addition, as a result of increased time spent exercising, research staff estimate that participants receive an annual health savings of \$666.67 on average after graduating the training program. This is a positive return for the participant. Research staff estimate that the annual cost to a participant who pursues healthy dietary choices after graduating the training program is \$547.50. This is a negative return for the participant. The research staff infers that these negative returns are incurred by the participant after graduating the training program because increased income leads to increased budgetary spending on health. This could include paying a monthly premium for insurance, which the participant may not have been doing before graduating the training program, in addition to spending more on healthier food options. The savings gained by the participant due to increased time spent exercising do not outweigh the costs of the participant paying for health insurance and eating healthy post-graduation.

Research staff's results are limited by availability of data, as no information was collected from program participants regarding how often participants missed work for health issues or appointments. Measurement of program participants' perceptions of individual health, healthcare routines (including type and cost of exercise and eating habits), and the amount and cost of self-care before and after program completion would add to the study as well. These measurements would be both qualitative and quantitative in nature. Data describing productivity costs for the employers from employees missing work for health issues would also improve outcome

estimations. It is beyond the scope of this study to estimate the total health savings due to healthier eating and exercise habits.

Discussion

Table 8.11 displays the net costs and benefits for each of the five stakeholders. Each stakeholder received a net benefit from workforce development programs. Even including program costs, participants received an estimated net benefit of \$31,916 per year. Research staff solely estimated benefits for Travis County, the State of Texas, and employers, as measuring direct costs to these stakeholders was beyond the scope of this report. Travis County received a net benefit of \$21,525, and the State of Texas received a net benefit of \$18,615. Employers received a net benefit of \$4,089.

Table 8.11.
Net Costs and Benefits by Stakeholder

Stakeholders	Costs	Costs (\$/person/yr)	Benefits	Benefits (\$/person/yr)
Participants	Increased health insurance costs	\$2,052	Fringe job benefits	\$6,133
	Increased cost of diet	\$548	Improved exercise habits	\$667
			Increased investment in home life	\$27,716
Travis County			Savings on incarceration costs	\$21,535
State of Texas			Savings on incarceration costs	\$18,615
Employers			Savings on turnover costs	\$4,089

Source: Unpublished table created by research staff, January 2019.

Overall, research staff estimated positive benefits for each of the four outcomes analyzed: job satisfaction, quality of life, crime, and health.

Key findings for the job satisfaction outcome include positive participant benefits, with increasing returns to scale based on the number of years from graduation. On average, participants earned \$6,133 in fringe benefits four years after program graduation. Employers also realized gains, saving on average \$4,008.91 in decreased employee turnover costs four years after program graduation.

Key findings for the quality of life outcome include increased time and money spent with family, an overall positive return on investment of about \$533 per week. The public sector also benefited from an increase in participants' quality of life as reliance on social services decreased.

Key findings for the crime outcome include Travis County's positive returns on investment of about \$21,535 per year per participant graduated. This is due to the fact that about 20 percent of respondents to the survey indicated that they were involved in the justice system before entering

their training programs, and after graduating, none of the interview respondents reported continued involvement in the justice system after program completion.

Key findings for the health outcome include participants’ exercising more, spending more on average on health insurance compared to pre-program, and self-reported healthier eating habits.

Research staff would have liked to analyze further social outcomes of job-training program participation beyond the four outcomes included in the SROI. In Table 8.12, research staff identify the social outcomes of parental program completion experienced by the children of participants and increased workplace diversity as two additional potential social outcomes of job-training programs not analyzed in this chapter.

Table 8.12.
Additional Social Outcomes

Additional Outcomes	Potential Measurements	Stakeholders
Child outcomes	School performance Discipline/behavior Activities involved Health Safety Future plans	Participants Families Schools
Diversity	Increased diversity in employer staff as a result of employing program graduates (race, nationality, gender, religion)	Participants Employers Employees Consumers

Source: Unpublished table created by research staff, January 2019.

As a result of program completion, children of program participants may receive positive social returns. These child outcomes of program participation benefit participants, participants’ families, and the schools their children attend. Potential measurements of the child outcomes of program completion include children’s performance in school, positive changes in their discipline or behavior, increased involvement in extracurricular activities, improved health outcomes, increased safety from violence or other crime, and positive outlooks on their future plans. These potential measurements serve as indicators for program success with regards to intergenerational outcomes.

Workplace diversity may also increase as a result of program outputs. Diversity among program participation translates to diversity among graduates, and as such, diversity in the field of applicants from which employers select their employees. Diversity in the workplace can be measured along a variety of spectrums, including diversity of race, nationality, gender, and religion, among others. Participants benefit from increased diversity in the workplaces of their potential employers, as the employers are involved in the programs. Employers and employees benefit from increased diversity in their workplaces, as diversity on the basis of race, nationality, gender, religion, or other factors can contribute to diversity of thought, creative problem-solving, and innovation. Intellectual diversity and creativity stemming from a diverse workforce benefits consumers of the goods and services the employers provide.

Research staff developed a working methodology for the monetization of SROI components not included in the ROI. Turnover costs specific to the City of Austin, more inclusive interview data on quality of life measurements, data on crime in neighborhoods, and a larger sample of specific health insurance costs for participants and employers would help future SROI analyses of training programs. Research staff recommend that future research estimate other social benefits to Capital IDEA, Skillpoint Alliance, and Goodwill’s workforce development programs through additional outcomes, such as the social outcomes of parental program completion experienced by the children of participants and increased workplace diversity.

¹ De Sousa Sabbagha, Michelle, Ophillia Ledimo, and Nico Martins, “Predicting Staff Retention from Employee Motivation and Job Satisfaction,” *Journal of Psychology in Africa* 28 (2): 136. doi:10.1080/14330237.2018.145457.

² Bureau of Labor Statistics, “Employer Costs for Employee Compensation - September 2018,” <https://www.bls.gov/news.release/pdf/ecec.pdf>, accessed February 5, 2019.

³ Bureau of Labor Statistics, “Job Openings and Labor Turnover - December 2018,” <https://www.bls.gov/news.release/pdf/jolts.pdf>, accessed February 5, 2019.

⁴ Ruohua Annetta Zhou, Katherine Baicker, Sarah Taubman, and Amy N. Finkelstein, “The Uninsured Do Not Use The Emergency Department More—They Use Other Care Less,” *Health Affairs* vol. 36, no. 12 (Dec. 2017), <https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2017.0218>.

⁵ Nolan Caldwell, Tanja Srebotnjak, Tiffany Wang, and Renee Hsia, “How Much Will I Get Charged for This?” Patient Charges for Top Ten Diagnoses in the Emergency Department,” *PLoS One* vol. 8, no. 2 (Feb. 2013), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3584078/>.

⁶ Cost Helper Health, “Emergency Room Visit Cost,” <https://health.costhelper.com/emergency-room.html>.

⁷ Javier Valero-Elizondo et al., “Economic Impact of Moderate-Vigorous Physical Activity Among Those With and Without Established Cardiovascular Disease: 2012 Medical Expenditure Panel Survey,” *Journal of the American Health Association*, Sept. 7, 2016, <https://www.ahajournals.org/doi/full/10.1161/jaha.116.003614>.

⁸ Mayuree Rao, Ashkan Afshin, Gitanjali Singh, and Dariush Mozaffarian, “Do healthier foods and diet patterns cost more than less healthy options? A systematic review and meta-analysis,” *BMJ Open*, 2013, doi: 10.1136/bmjopen-2013-004277.

Chapter 9. Key Findings and Recommendations

Capital IDEA, Skillpoint Alliance, and Goodwill operate workforce training programs that enroll groups typically excluded from the mainstream economy. These organizations seek to enable participants to move out of poverty through productive employment and increased wages. Each program provides training and enables work opportunities, assisting people who are homeless, living below the poverty line, or formerly incarcerated. Persons in these groups may face challenges based on race, ethnicity, poverty, citizenship status, or sexual orientation.

This report sought to evaluate these three programs and their outcomes. Vocational training represents an alternative to higher education for individuals who cannot afford or lack appropriate skills to attend community college or university. Workforce programs train people for work in plumbing, electrical work, construction, technological trades, medical assistantships, and other professions that are reliant on hands-on skills. Programs can be as short as a few weeks and as long as several years, but all are shorter than a four-year university degree. Even though unemployment is low in the Austin job market, skilled technical trades remain in high demand. Each of the workforce training programs are concerned with disrupting the cycle of intergenerational poverty, which is not only an economic but also a humanitarian goal. Below are four program conclusions.

Conclusion 1: Participants who take part in job-training programs report higher economic returns compared to nonparticipants. Research staff's ROI and interviews demonstrate that participants who graduate from job-training programs earn increased wages and income. The report findings are consistent with previous training program evaluations. Research staff findings indicate higher returns than many previous ROI evaluations. Five years out, data from the ROI demonstrated increased quarterly wages of \$4,559 for Capital IDEA, \$1,786 for Goodwill, and \$3,161 for Skillpoint Alliance. These estimates are conservative, given information from interviews indicated even greater quarterly returns to participants.

Conclusion 2: Wrap-around services earn benefits. The ROI, SROI, and interviews document the value of wrap-around services. Of the 77 interviewed Capital IDEA participants, 28 of them cited wrap-around services as one of the main positives of their experience. Several interviewees spoke about how they received assistance in car payments, textbooks, gas cards, and utility bills. Without these wrap-around services, the participants stated that it would have been quite difficult for them to finish the program in a timely fashion, if at all. The findings from the interviews are consistent with previous Ray Marshall Center analysis on the benefits of wrap-around services.

Conclusion 3: Participation in job training leads to higher quality of life and increased social benefits. Interviews and the SROI analysis document that participants move out of social services such as SNAP, report better mental and physical health, and spend more time with family. The majority of interviewees reported decreased levels of stress post-program completion. Interviewees acknowledged that they were consuming healthier foods and exercising more. The SROI supported results from the interviews, finding that participants were spending more of their incomes on healthier foods (\$548) and had greater access to health insurance.

Conclusion 4: Children of participants who take part in job training are more likely to pursue a higher education. The interviews revealed a fascinating outcome of parental participation with workforce training: the cultivation of self-sufficiency, the building of community, the improvement of self-perception, and example-setting for children, which can result in a multi-generational impact. Interviewees spoke about improved academic performance from their children as a result of the training programs. Graduates reported that their children were more likely to attend university and felt “inspired” by their parents’ success. Interviewees acknowledged that they had more time to spend with their children per week on homework, vacations, and other activities. While the SROI did not seek to estimate dollar second-generation outcomes, the “quality of life” outcome found that participants were spending more time and money on activities with their children, leading to a return of about \$533 per week.

Based on the key findings above, research staff developed four recommendations to guide the improvement and evaluation of these three programs.

Recommendation 1: Standardize data collection to evaluate participant outcomes. Each training program could implement a questionnaire that follows participants through program entry, leaving the program, and specific time intervals after completion including six months, three years, and five years out, all being mandatory. A ten-year post completion questionnaire could be optional. Programs could promote an economic incentive to graduates to complete surveys (even if participants once had signed up to do so). Participants should be provided with some compensation for completing questionnaires. Listed below are a few possible interview questions. These questions would allow the city and the programs to capture qualitative measures. Programs can also use results of these interviews to advocate for increased program funding.

- What are your average hours per week spent engaging in physical activity?
- What is the average time per week that your children participate in extracurricular activities?
- What is your current employment status? What is your hourly wage?
- Are you on social services benefits? If so, which ones?
- Are you on work benefits? If so, which ones?
- How many times a week do you visit fast food restaurants?

Recommendation 2: Integrate wrap-around services within training programs and build networks to expand these services. Evidence from literature review, the ROI, and interviews reveals that wrap-around services lead to participants’ successful program completion. Programs that connect participants with wrap-around services have higher retention rates due to the presence of needed services such as childcare, compensation for transportation, emergency funding for participants, and transitional services for program graduates, such as referrals and job counseling. Research staff conclude that programs that are able to connect with other providers

for wrap-around services represents a more sustainable, efficient, and feasible approach than asking each workforce program to provide trainees these services themselves.

Recommendation 3: Establish a stakeholder commission. The study identified many stakeholders concerned with the success of workforce training, including representatives from the city, employers/business associations, participants, and training programs. To address workforce training opportunities, the COA could bring together different stakeholders to meet and gather advice about workforce development. This commission could provide independent advice to city council and departments on policies and practices related to workforce development. The commission would not be a planning group, but rather an independent coalition of diverse and affected stakeholders.

Recommendation 4: Consider the value of workforce training in middle schools and high schools. Adult training programs are effective in moving impoverished people out of poverty into better-paying, high-demand jobs. However, post-age-18 workforce training is relatively expensive due to the costs for mentorship, wrap-around services, and other support services required to serve these populations. One solution to reduce per-participant costs is to establish training and mentorship within middle and high schools that already have some of these components. Labor unions could partner with the local high school districts to connect students to the skilled trades through apprenticeships. Information from the interviews illustrated the positive multi-generational impacts of training programs. Apprenticeship opportunities to low-income youth could break the cycle of poverty within households, as teenagers can both attend school and earn an income. Offering apprenticeship opportunities in high schools could close a gender gap between men and women. For example, research from the Aspen Institute indicates that 2.5 million more women should be in the workforce.¹ Partnerships could focus on training more young women into the trades, which could increase overall female labor force participation and representation.

¹ Maureen Conway and Mark G. Popovich, “Is America Missing 2.5 Million Women Workers?” The Aspen Institute, April 17, 2019, <https://www.aspeninstitute.org/blog-posts/is-america-missing-2-5-million-women-workers>, accessed May 8, 2019.



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