Connecting Under-Resourced Youth to Opportunity:

A Cost-Benefit Analysis of a Youth Employment Program in Washington, DC

by Amanda Fioritto

This paper presents a cost-benefit analysis of a youth development program run by Urban Alliance, a nonprofit organization headquartered in Washington, DC that provides paid internships to under-resourced high school students. Although Urban Alliance served over 1,500 youth across four locations through multiple programs during the 2013-14 academic year, this analysis focuses exclusively on the High School Internship Program (HSIP) in Washington, DC. Using a sub-national perspective, the costs and benefits experienced by all residents and groups in Washington, DC are considered in the analysis. The status quo to which this program is compared is student nonparticipation in any similar program. Under the base case, the program is expected to yield approximately $19 million in net benefits. This study concludes that the program is efficient and should continue to operate.

BACKGROUND

Today, nearly seven million youth – one-fifth of the population aged 16 to 24 – are disconnected from school and work. These disconnected, or "opportunity," youth lack the education, skills, and opportunities required for self-sufficient adulthood: some are high school dropouts, few receive post-secondary education, and many work low-wage jobs or face unemployment (Belfield et al. 2012). As of July 2015, the unemployment rate for youth is roughly 12 percent, accounting for 2.8 million youth. Black and Hispanic youth are more likely to face unemployment than their White peers (21 percent and 13 percent, respectively, compared to 10 percent) (Bureau of Labor Statistics 2015a).

Youth disconnection not only has negative implications for current earnings, but impacts educational attainment, which has lasting consequences for future economic security and self-sufficiency. A number of studies have shown that moderate employment during high school positively affects future educational attainment, work frequency, and earnings: youth who work 20 hours per week during the academic year are more likely to attend four-year colleges and attain bachelor's degrees, which leads to significantly higher earnings six to nine years later (Mortimer 2010, Ruhm 1995). On average, individuals completing a bachelor's degree earn $17,500 more per year in earnings than those with only high school diplomas (Pew Research Center 2014). In addition to earning more as adults, these students also work more frequently, by approximately six weeks per year (Rothstein 2001). Without access to early employment opportunities, disconnected youth may lose out in the long run.

Disconnected youth are not alone in shouldering the burden of limited opportunity, however: when youth lack pathways toward employment and education, they pose an economic burden for the broader tax-paying population. It is estimated that each disconnected youth costs taxpayers approximately $170,000 in the course of his or her lifetime due to welfare and healthcare support, criminal justice expenditures, and lost earnings. With nearly 7 million youth considered "disconnected" in the United States today, the aggregate taxpayer burden is roughly $1.6 trillion (Belfield et al. 2012). Youth workforce development programs seek to mitigate these costs by connecting youth to immediate job training, employment, post-secondary education opportunities, and mentorship. While there are a variety of these programs operating across the United States, program models and offerings are too diverse to conduct a cost-benefit analysis of youth workforce development programs at large. This study, therefore, focuses on one example of these programs: Urban Alliance's High School Internship Program (HSIP).

URBAN ALLIANCE

Urban Alliance is a nonprofit organization headquartered in Washington, DC that provides paid, professional internships to high school students in under-resourced schools and neighborhoods. Since its founding in 1996, Urban Alliance has expanded from serving students in one Washington, DC high school to serving students in over 50 high schools in four program regions (personal communication

2016).[1] Currently, Urban Alliance serves over 2,000 youth per year in Washington, DC, Chicago, Baltimore, and Northern Virginia through seven different programs (personal communication 2016). The High School Internship Program (HSIP) is Urban Alliance's longest-running and most intensive program, delivering four primary components over the course of 10 months: training, internships, mentorship, and alumni services (Theodos et al. 2014).

Training: Before interns are placed in job sites, they participate in an unpaid, six-week pre-work training. During this time, interns receive training in a variety of hard and soft skills to prepare them for the professional world, from performing basic functions in Microsoft Excel to communicating professionally and learning to manage time wisely. These skills are reinforced weekly throughout the internship period during Friday workshops and are also evaluated quarterly by interns' worksite mentors. Other workshops focus on aspects of post-high school planning, from college applications and financial aid to resume and cover-letter writing (personal communication 2016, Theodos et al. 2014).

Internship: Youth who complete the mandatory six-week pre-work training are eligible for placement in paid internships in nearby professional organizations. While Urban Alliance tries to match interns to job sites based on career interest and skill, most internships involve similar entry-level tasks such as filing, data entry, and Internet research. The internship period begins in late October or early November for most students, and generally lasts through the first week of August. During the school year, interns work after school from 2:00 to 5:00 pm, four days per week. In order to meet this schedule, the interns must qualify for an early-release schedule, which students are eligible for during their senior year. When the school year is over, interns work full time (9:00 am to 5:00 pm) at their job site, four days per week. Interns receive minimum wage at the beginning of the internship period but are eligible for four raises throughout the year based on performance (personal communication 2016, Theodos et al. 2014).

Mentorship: When youth enter an Urban Alliance internship program, they receive two primary adult mentors: a program coordinator (PC) and worksite mentor. Interns are assigned to Urban Alliance program coordinators during pre-work. The PC serves as the point of contact for both the intern and the worksite mentor, essentially a case manager for the internship program. Any problems faced by the intern regarding the internship experience —logistical, financial, behavioral — are dealt with by his or her PC. Program coordinators also lead their caseloads in professional training and post-high school planning during each Friday workshop. The worksite mentor serves as the intern's supervisor at his or her job site. While interns may work with, and take direction from, multiple company employees, each is assigned a primary mentor to oversee task assignment and evaluate performance. The primary mentor is also responsible for completing up to four skill set evaluations for each intern he or she supervises. These evaluations are completed quarterly and

1 Information specific to the Urban Alliance organization and program model is sourced from the author's interview with Urban Alliance staff.

are submitted to Urban Alliance to track skill growth and determine wage raises (Theodos et al. 2014).

Alumni Services: Interns who successfully complete the program are added to an alumni list for Urban Alliance to track future outcomes and continue to assist alumni in finding jobs, scholarships and financial aid, and other professional opportunities. To track college enrollment and persistence, Urban Alliance also subscribes to the National Student Clearinghouse and requests update reports twice annually. In addition to tracking, alumni services also include educational and career resources and counseling for alumni, including resume review and job search help (Theodos et al. 2014).

Urban Alliance created an internal evaluation department to begin tracking intern performance and post-program outcomes in 2011 (Theodos et al. 2014). Data from the past three program years seem to indicate an effective model: over 90 percent of those completing the program are accepted to college; approximately 80 percent enroll in college; and 80 percent of those enrolled persist to their second year (personal communication 2016). Of recent cohorts, over 75 percent of program alumni are reported as being "connected" to a pathway—college, full-time employment, or a training program—one year after program completion (personal communication 2016). For a more detailed analysis of program effect and intern outcomes, Urban Alliance has partnered with the Urban Institute to conduct a six-year randomized controlled trial (RCT) evaluation of the HSIP in its Washington, DC and Baltimore locations. The baseline report was released in September 2014, with two additional reports to follow in 2016 and 2017 (Theodos et al. 2014).

CALCULATING COSTS AND BENEFITS

The following analysis accounts for a variety of programmatic costs and benefits accrued by all residents and groups in the Washington, DC metropolitan area, including program participants and staff, funders, and local communities, businesses, and colleges. Given Urban Alliance's unique position as the only year-round, paid, professional workforce development program for high school youth in Washington, DC, the status quo to which this study's costs and benefits are compared is student nonparticipation in a paid internship program. Similarly, due to Urban Alliance's unique program model, as well as the limited number of existing analyses of youth workforce development programs, many calculations in this study rely on primary data collection done by the author while employed at Urban Alliance. As this analysis represents the first cost-benefit analysis of an Urban Alliance program, accurate, program-specific data were not available for all calculations, particularly values concerning program dropouts. Some of these potential costs and benefits have been omitted altogether in calculations (but are discussed in the "excluded costs" and "excluded benefits" sections of the paper), while others have been included using proxy measures. Assumptions made regarding calculated costs and benefits are discussed in the body of the paper and are tested in a sensitivity analysis.

Throughout the study, it is important to remember that the Urban Alliance

program model is designed to serve a particular type of student, and thus the external validity of this analysis—as well as the results of the program itself—are limited to a specific subset of the American high school population. While application for the Urban Alliance High School Internship Program is open to all high school seniors in the DC Public Schools (as well as within DC Public Charter Schools), the pool of applicants is not random. In fact, Urban Alliance's target student is the "middle of the road" high school senior: someone with a "mid-range" GPA (generally 2.0 to 3.0), who also qualifies for an early-release school schedule – available to seniors who are on-track for graduation and in good academic standing. This subset of students is assumed to be the most capable of participating in and benefitting from the internship program (personal communication 2016).

While academically low-performing students may also benefit from professional development, they are generally unable to meet the requirements for early release or to balance schoolwork with the rigors of the program. Academically high-performing students, on the other hand, may be able to balance work and school successfully but may generally have less time (due to participation in other extracurricular activities) or need for the program (personal communication 2016). Once in the program, there may still be factors that create significant differences between interns that affect their ability to complete the program successfully, such as differing motivation, grades, or workplace behaviors. Though these variables are difficult to control in this analysis, altering particular values and assumptions in the sensitivity analysis provides a better estimate of the program's true net benefit.

Finally, it is also important to note that, though the internship program only lasts one year, particular costs and benefits may be observed in future (post-program) years or may accrue over time. These values have been estimated, and are reported here, in present value terms using a 5-percent nominal discount rate. Future cost and benefit calculations also account for inflation, estimated here at 3-percent per year. The costs and benefits, therefore, should not be interpreted as the costs and benefits that a group accrues in Year 1, but rather as the bundled, "lifetime" costs and benefits for Cohort 1. Assuming that certain values—such cohort size, earnings, tuition costs, and program costs—remain similar in future years, a multi-cohort analysis would simply be a multiplication of net benefits by the number of cohorts being observed. For simplicity, this analysis presents an estimate of the net benefits for one cohort of HSIP interns in Washington, DC.

DISTINGUISHING BETWEEN PROGRAM ALUMNI AND PROGRAM DROPOUTS

This analysis is based on a cohort size of 140 students. Though internship placement numbers vary annually based on the applicant pool and number of confirmed job placements, DC HSIP hovers around 140 placements per year. Looking forward, DC cohort size is not estimated to grow drastically, as this particular program is currently operating nearly to scale (personal communication 2016).

Because not all interns who are placed in job sites complete the program—and

thus do not experience the full costs and benefits—calculations differentiate between alumni and dropouts. For the DC HSIP, program attrition is fairly large: approximately 66 percent successfully complete the 10-month internship, while the remaining third drop out of the program before program completion (personal communication 2016). For a cohort of 140, this yields 92 program alumni and 48 program dropouts.

For simplicity, dropouts are regarded in this analysis as completing 20 weeks of the internship program. Though interns quit the program at different times throughout the year, attrition is highest in the spring as students near graduation (personal communication 2016). The assumption that dropouts complete 20 weeks of the program implies that students who quit the program will leave having received training in post-secondary planning, financial literacy, and professional skills.

While Urban Alliance's alumni services and evaluation departments track most post-program outcomes of program alumni, Urban Alliance does not track outcomes for program dropouts (personal communication 2016). Estimated costs and benefits for program dropouts represent a best guess based on available data and information regarding the DC HSIP. For both alumni and dropouts, college completion data are not readily available and have thus been estimated. The alumni completion rates are based on first- and second-year college persistence rates; dropout completion rates are assumed to be slightly lower than those of alumni, since interns who leave the program do not receive additional "alumni services" once they leave Urban Alliance (personal communication 2016).

Key figures affecting cost and benefit values are presented in Table 1. Because the status quo to which the Urban Alliance is compared is the absence of a similar youth employment program, outcomes for participants (both alumni and dropouts) are compared to a "control group" of DC Public School and DC public charter school students. Unless otherwise noted, values below are estimates, not calculated using Urban Alliance data, and are varied in sensitivity analysis.

Table 1. Fundamental Values for Alumni and Dropout Youth

Fundamental Base Case Assumptions	Program Alumni	Program Dropouts
Number of Interns	92	48
First Year College Enrollment	81%	60%*
4-Year College	56%	30%*
2-Year College	25%	30%*
Connected Rate**	77%	60%*

** Rates for program dropouts represent estimations, as Urban Alliance currently only tracks outcome data for alumni.*

*** Percent of group "connected" to college, full-time employment, or other employment training program; does not include students who enroll, but then withdraw, from college*

Source: Author's personal communication with Urban Alliance staff. 2016.

COST CALCULATIONS

In the base case scenario, aggregate costs amount to approximately $5.8 million. Table 2 provides a detailed description of these costs and to which group they are attributed. The majority of the costs accrue to the participating youth and the Urban Alliance organization.

PROGRAM ALUMNI

The largest costs to youth are "opportunity costs" of program participation. During the program, youth give up free time for other activities. For the purposes of this calculation, one hour of "lost time" spent in the program is assumed to be equal to half the hourly minimum wage rate that this cohort of students would earn – approximately $4.13.[2] Assigning a monetary value to time, however, is an imperfect estimation; for this reason, the value is varied in the sensitivity analysis, below.

The second and largest cost to youth participating in the DC HSIP is not incurred until after the program's end when students have entered college. Through post-high school planning and coaching,

2 The hourly minimum wage in the District of Columbia was $8.25 in 2013 and 2014. Because this analysis focuses specifically on the 2013 – 2014 Urban Alliance program year, calculations use the minimum wage value from the corresponding years.

Table 2. Base Case Costs for One Cohort by Group and Line Item

Group	Description of Cost	Estimated Costs
Program Alumni	Work Commute[1]	$99,000
	Time Devoted to Program[2]	$233,000
	Lost Wages while in College[3]	$1,990,000
	Cost of College[4]	$440,000
Program Dropouts	Work Commute[1]	$24,000
	Time Devoted to Program[2]	$50,000
	Lost Wages while in College[3]	$231,000
	Cost of College[4]	$39,000
Job Partners	Sponsoring Interns[2]	$875,000
	Completing Evaluations and Surveys[5]	$13,000
Philanthropic Donors	Sponsoring Interns[2]	$875,000
Grant Funders (via Urban Alliance)	DC Program Team[2]	$630,000
	Support from National Team[2]	$252,000
Total Costs		**$5,751,000**

Source: All figures represent author's calculations

[1] Washington Metropolitan Area Transit Authority. 2014.
[2] Author's personal communication with Urban Alliance staff. 2016.
[3] Bureau of Labor Statistics. 2015b.
[4] College Board. 2015.
[5] Bureau of Labor Statistics. 2014b.

Urban Alliance youth are encouraged to pursue higher education as a means to self-sufficiency in adulthood (personal communication 2016). While increased educational attainment is linked to higher earnings, youth give up potential work time to pursue their education.

The Bureau of Labor Statistics estimates that the average full-time worker, whose highest level of education is a high school diploma, has weekly earnings of $668 (Bureau of Labor Statistics 2015b). Working full-time for 36 weeks per year (the approximate length of a school year), youth have the opportunity to earn up to $85,000 (present value) over the course of four years of school. At a 94 percent high school graduate employment rate, the result is an aggregate cost of $1.99 million in potential earnings (Bureau of Labor Statistics 2015b). Though youth lose out on these potential earnings during college, it is expected that the education and experience gained from higher education will increase post-college earnings such that this cost is recovered over time. Given the uncertainty that youth would pursue full-time work in lieu of college, and the variability in time spent completing a degree, this calculation is also tested in sensitivity analysis.

Post-program, youth also incur the actual cost of enrolling in college. It is estimated that the cohort of program alumni incurs costs of nearly $440,000 in tuition, books, and lab fees. Approximately 81 percent of alumni enroll in college, compared to 54 percent of their "control group" participants (personal communication 2015). Over half of alumni (58 percent) enroll in four-year colleges, with the other 23 percent enrolling in two-year colleges, with the potential to later transfer into four-year colleges (personal communication 2016). According to the College Board, average annual tuition at four-year public universities is nearly $9,500, and the average scholarship package is slightly over $5,400, for an approximate annual net cost of $3,980. Similarly, the average annual tuition at two-year colleges is nearly $3,500, with an estimated scholarship of over $2,000, for an annual net cost of $1,500 (College Board 2015).

Work commute during the program also represents a significant cost for participants. Rather than a traditional after-school job in a nearby store or restaurant, Urban Alliance job sites are spread throughout Washington, DC, with the majority located in the northwest quadrant. Most interns, however, live and attend school in the southeast and northeast quadrants, making their commute more time-consuming and expensive than a traditional after-school job might be (personal communication 2016). The cohort of program alumni who work the full 10 months of the program spends roughly $99,000 on their commutes. This calculation is based on the cost of a round-trip Metro ride from a station in the southeast quadrant (where most interns live) to a station in the northwest (where most interns work) during rush hour, over 40 weeks, as determined by the Washington Metropolitan Area Transit Authority's (WMATA) Metro Trip Planner (WMATA 2014). Except in rare cases, Urban Alliance does not provide interns with travel stipends; the interns generally bear the full cost of their weekly commute (personal communication 2016).

PROGRAM DROPOUTS

Similar to program alumni, interns who drop out of the program early incur large costs post-program from lost potential wages in college and actual tuition costs. The value of lost time, for other activities and studying, is calculated similarly for both program alumni and dropouts. The cost of lost time for other activities assumes that, unlike program alumni, youth who drop out of the program early have a better chance to participate in sports and other extracurricular activities, and therefore do not give up as much as youth who fully commit to the HSIP. Assuming that youth drop out after 20 weeks of part-time work (or approximately 250 work hours), the aggregate cost of time spent in the program is estimated at $50,000. As with program alumni, this estimation has significant limitations and is varied in sensitivity analysis.

Program dropouts also incur costs for enrolling in college. Of the 60 percent of dropouts who are assumed to enroll in college, it is assumed here that around half will go to four-year universities and the other half to two-year colleges, with a fraction of those transferring into four-year schools later. Though program dropouts are similar to their "control group" peers, this analysis assumes that experiences and support from Urban Alliance encourage more youth to enroll in four-year schools than community colleges. Though these youth seem to incur fewer costs than program alumni, at the same time, they also stand to benefit less than their peers who complete the program: lacking full program treatment ultimately results in reduced potential benefits.

GRANT FUNDERS

Urban Alliance programs are funded in large part by foundation and government grants, so it is the grant funders who incur program costs through their funding of Urban Alliance staff. Significant partners for the DC HSIP include Venture Philanthropy Partners, DC Department of Employment Services, The World Bank, and Bank of America (personal communication 2016).

Staff salaries, of both DC program and national team members, represent the largest organizational costs. The DC program team is composed of five program coordinators, one program director, an executive director, and one alumni services coordinator (personal communication 2016). Though the national team is housed in Washington, DC, it generally splits its time equally between the four regions; therefore, only one-fourth of the national team costs are attributed to the DC HSIP. Together with the DC team salaries, this amounts to a cost of approximately $880,000 (personal communication 2016). This, however, is a transfer from grant funders to Urban Alliance staff: the benefit Urban Alliance staff gain through the DC HSIP is equal to what funders pay to employ them.

JOB PARTNERS AND PHILANTHROPIC DONORS

In addition to foundation and government grants, Urban Alliance relies on corporate sponsorships to fund its program. Each DC HSIP placement requires $12,500 to cover student salaries as well as some administrative costs of the program, amounting to $1.75 million for a cohort of 140 (personal communication 2016).

Urban Alliance categorizes each internship placement by "payment type:" paid; unpaid – matched; and unpaid – unmatched. Nearly half of all DC placements are "paid," or funded directly by the job partner. The remaining 50 percent are "unpaid" and are matched to other sponsorships or grant funds (personal communication 2016).

Job partner employees who serve as mentors are also expected to complete four skill set evaluations of their intern over the course of the program as well as one mentor satisfaction survey, with each survey taking about 10 minutes to complete (personal communication 2016). Mentors' time is valued here at roughly $22.50 per hour, based on median earnings for full-time work, resulting in an aggregate cost of $2,000 (Bureau of Labor Statistics 2014b).[3]

3 Does not include fringe benefits.

EXCLUDED COSTS

Though the majority of costs are accounted for in this analysis, a few relatively small costs have been excluded. For instance, the job partner employees who serve as mentors are expected to attend a mentor training session at the beginning of the internship period. Very few mentors, however, actually attend, and the session only lasts about two hours, resulting in a very minimal additional cost (personal communication 2016).

BENEFITS CALCULATIONS

The DC HSIP is estimated to yield $24.9 million in benefits to participating youth, job partners, surrounding colleges and universities, taxpayers, and Urban Alliance staff. Table 3 provides a detailed breakdown of each group's expected benefits.

Table 3. Base Case Benefits for One Cohort by Group and Line Item

Group	Description of Benefit	Estimated Benefits
Program Alumni	Current Earnings[1]	$102,000
	Increased Future Earnings[2]	$16,345,000
Program Dropouts	Current Earnings[1]	$12.000
	Increased Future Earnings[2]	$1,837,000
Job Partners	Mentors Gain Supervisory Experience[3]	$611,000
Urban Alliance Staff	Staff Salaries[1]	$882,000
Taxpayers	Fewer Recipients of Publically-Funded Services[4]	$5,061,000
Total Benefits		**$24,850,000**

Source: All figures represent author's calculations

[1] Author's personal communication with Urban Alliance staff. 2016.
[2] Bureau of Labor Statistics. 2015b.
[3] Bureau of Labor Statistics. 2014a.
[4] Belfield et al. 2012.

PARTICIPATING YOUTH: PROGRAM ALUMNI AND DROPOUTS

While youth are enrolled in the HSIP and working, their most obvious benefit is an increase in earnings. Though 60 percent of participants work before attending Urban Alliance, the HSIP represents the first work opportunity for 40 percent of youth. For youth who held jobs previously, employment opportunities were generally minimum wage jobs in retail and food service (personal communication 2016). Urban Alliance internships, however, allow youth to earn up to $10 per hour (personal communication 2016). Earnings during the program are higher for alumni than dropouts because dropouts neither work the same amount of hours nor work enough to earn the $10 per hour wage raise.

Youth who go through the Urban Alliance program gain experiences that they may not have otherwise had: work experience in a professional job environment, intensive job readiness and skills training, education and career counseling, and access to scholarship opportunities for college. Each of these benefits ultimately contributes to future earnings by connecting the majority of interns to opportunities for advanced education.

Based on median earnings for increased educational attainment and the proportion of interns attending two- and four-year colleges, the total benefit of an intern cohort is over $10 million after discounting for present value. According to the Bureau of Labor Statistics, median weekly earnings are as follows (Bureau of Labor Statistics 2015b):

Level of Education	Median Weekly Earnings
Bachelor's Degree	$1,101
Associate's Degree	$792
Some College	$741
High School Diploma	$668

Source: Bureau of Labor Statistics. 2015. Earnings and Unemployment Rates by Educational Attainment

College enrollment among alumni is 81 percent: 56 percent enroll in four-year colleges, and 25 percent enroll in two-year colleges (personal communication 2016). Among interns attending four-year colleges, the base case scenario estimates that 65 percent will complete the degree. Among two-year college enrollees, the base case estimates a 75 percent completion rate. This amounts to over $16 million (present value) in increased future earnings over the course of a lifetime for the alumni cohort, relative to their peers.

College enrollment among program dropouts is less certain, but is estimated here as 60 percent: 35 percent in four-year colleges and 25 percent in two-year colleges. Estimated completion rates are 55 percent for bachelor's degrees and 65 percent for associate's degrees.[4] These estimates translate to approximately $1.8 million in lifetime earnings (present value), relative to their non-participant peers.

4 Enrollment and completion rates are assumed to be lower for dropouts than alumni because, although they have gained some experience through Urban Alliance, they did not receive the full treatment, and are not connected to the alumni services and mentorship that frequently helps alumni throughout their time in college.

URBAN ALLIANCE STAFF

As mentioned previously, Urban Alliance staff experience benefits equal to the costs incurred by those organizations that fund Urban Alliance programs, resulting in a transfer of $882,000 in salaries.

JOB PARTNERS

In interviews with the Urban Institute RCT team, job partners remarked that hosting interns was beneficial not only for the intern, but for the host company as well. Among other benefits, hosting an intern provides an opportunity for employees to gain supervisory experience, widening their range of skills and, possibly, resulting in increased earnings for employees (Theodos et al. 2014). This analysis estimates benefits to job partners based on an average business and financial occupations salary ($87,250) and assumes that the advantage of gaining supervisory experience is equivalent to a one-time, 5-percent bonus given to all 140 mentors (Bureau of Labor Statistics 2014a). This assumption will be varied in sensitivity analysis, below. The base case estimated benefit is over $600,000.

TAXPAYERS

Though the Urban Alliance HSIP was established for the benefit of disconnected youth, taxpayers reap the largest rewards. As previously noted, after the age of 25, each disconnected youth is estimated to cost taxpayers over $170,000 throughout the course of his or her life. Before 25, disconnected youth cost taxpayers over $13,000 per year; this estimation, however, has not been included because few Urban Alliance interns assume the full benefits of being "connected" until they have finished college or begun working (Belfield et al. 2012).

According to Urban Alliance, 77 percent of DC HSIP alumni are connected to higher education, full-time work, or further employment training after the program (personal communication 2016). The analysis assumes that 60 percent of program dropouts, and 50 percent of non-participants, are "connected" after quitting the program, though this estimation is varied in sensitivity analysis. Under the base-case calculations, approximately 30 additional youth are connected to school or work than in the absence of such a program. With each disconnected youth creating a taxpayer burden of $170,740 over the course of his or her lifetime, the marginal increase of youth connected through Urban Alliance amounts to a savings of over $5 million (present value) for taxpayers (Belfield et al. 2012).

EXCLUDED BENEFITS

The most prominent benefit to young people participating in the Urban Alliance program is the professional development training, particularly regarding soft skills (also known as "social- emotional" or "21st Century" skills) they receive throughout the course of the 10 months (personal communication 2016). These noncognitive, non-technical skills are gaining considerable attention from policymakers and researchers as numerous studies continue to find links between soft skill mastery and higher educational attainment, employability, and earnings (Heckman et al. 2006, Lippman et al. 2015). Because the ultimate benefit to program participants in mastering such skills is

increased earnings in adulthood, it is not addressed specifically in the calculations above; rather, the benefit of receiving soft skills training is wrapped into the general benefit of "increased future earnings."

One potential benefit for job partners has been excluded from this analysis but is worth noting. In addition to the opportunity for employees to gain supervisory experience, job partners mentioned that their involvement with Urban Alliance was an opportunity to increase office diversity (Theodos et al. 2014). While research has shown many potential benefits of increasing workplace diversity—decreased "groupthink," increased creativity and productivity, a better public image, etc.—monetizing diversity's impact on company performance remains difficult. If calculated, however, these benefits would only help to increase the net benefits of the program.

NET BENEFITS

Subtracting total costs from total benefits yields a potential net benefit of approximately $19 million for one cohort of Urban Alliance interns in Washington, DC. This strongly suggests that the program is efficient and offers a viable solution for connecting under-resourced youth to pathways for economic security and self-sufficiency. Because nearly all of the values used in the analysis are estimates, however, it is necessary to test the robustness of this result through sensitivity analysis.

SENSITIVITY ANALYSIS

This section tests how much the initial estimates vary under reasonable alternatives or alterations to the base-case assumptions. Values of particular uncertainty include average college costs, the value of interns' lost time, intern "connectedness rates," the cost of disconnected youth to taxpayers, and the value of gaining supervisory experience for job site mentors. While these values change, all calculations remain the same as in the base case calculations. These values will be varied in worst-case and best-case scenarios.

WORST-CASE SCENARIO

Calculating a worst-case scenario is important to test whether the estimated net benefit of the program could be smaller than predicted. If the program were, in fact, to have negative net benefits, it would be an inefficient project to implement. Even if the net benefits were drastically reduced, various stakeholders may determine that it is in need of revision. Tables 4 and 5 show the predicted worst-case costs and benefits in detail by line item.

To test the worst-case scenario for the DC HSIP, a 7-percent discount rate was applied (as opposed to a 5-percent rate in the base case) to all present value calculations, and the following alternative values were used in calculations:

	Base Case	Worst Case
College Costs[1]		
4-Year School	$4,410	$5,410
2-Year School	$635	$1,935
College Enrollment Rates[2]		
Alumni	80%	80%
Dropouts	60%	54%
College Completion[2]		
Alumni	65% complete 4-year degrees; 75% complete 2-year degrees	50% complete 4-year degrees; 60% complete 2-year degrees
Dropouts	55% complete 4-year degrees; 65% complete 2-year degrees	50% complete 4-year degrees; 50% finish 2-year degrees
Lost Wages During College[3]	94% employment rate	100% employment rate
Time Devoted to Program[2]	Time = $4.13/hour	Time = $7/hour
Taxpayer Savings[4]	Cost/Youth = $170,740	Cost/Youth = $130,000

Source: All figures represent author's calculations
[1] College Board. 2015.
[2] Author's personal communication with Urban Alliance staff. 2016.
[3] Bureau of Labor Statistics. 2015b.
[4] Belfield et al. 2012.

The results of this test present a dramatic difference to the base-case scenario, although the program is still predicted to yield positive net benefits. Even in the worst-case scenario—accounting for lower college enrollment and completion rates, as well as higher opportunity costs and lower connectedness rates—the program produces net benefits of approximately $6.6 million for a cohort of 140 participating youth.

Table 4. Worst Case Costs for One Cohort by Group and Line Item

Group	Description of Cost	Estimated Costs
Program Alumni	Work Commute[1]	$99,000
	Time Devoted to Program[2]	$395,000
	Lost Wages while in College[3]	$2,200,000
	Cost of College[4]	$568,000
Program Dropouts	Work Commute[1]	$24,000
	Time Devoted to Program[2]	$84,000
	Lost Wages while in College[3]	$257,000
	Cost of College[4]	$10,000
Job Partners	Sponsoring Interns[2]	$875,000
	Completing Evaluations and Surveys[5]	$13,000
Philanthropic Donors	Sponsoring Interns[2]	$875,000
Grant Funders (via Urban Alliance)	DC Program Team[2]	$630,000
	Support from National Team[2]	$252,000
Total Costs		**$6,282,000**

Source: All figures represent author's calculations
[1] Washington Metropolitan Area Transit Authority. 2014.
[2] Author's personal communication with Urban Alliance staff. 2016.
[3] Bureau of Labor Statistics. 2015b.
[4] College Board. 2015.
[5] Bureau of Labor Statistics. 2014b.

Table 5. Worst Case Benefits for One Cohort by Group and Line Item

Group	Description of Benefit	Estimated Benefits
Program Alumni	Current Earnings[1]	$102,000
	Increased Future Earnings[2]	$8,103,000
Program Dropouts	Current Earnings[1]	$12,000
	Increased Future Earnings[2]	$242,000
Job Partners	Mentors Gain Supervisory Experience[3]	$305,000
Urban Alliance Staff	Staff Salaries[1]	$882,000
Taxpayers	Fewer Recipients of Publically-Funded Services[4]	$3,229,000
Total Benefits		**$12,875,000**

Source: All figures represent author's calculations
[1] Author's personal communication with Urban Alliance staff. 2016.
[2] Bureau of Labor Statistics. 2015b.
[3] Bureau of Labor Statistics. 2014a.
[4] Belfield et al. 2012.

BEST-CASE SCENARIO

The best-case scenario predicts the net benefit of the program if it were to exceed expectations. Since it is already clear that the worst-case scenario is still very positive, the best-case scenario should only strengthen the claim of the program's efficiency. Tables 6 and 7 display a detailed breakdown of best-case costs and benefits.

To test the best-case scenario for the DC HSIP, a 3-percent discount rate was applied to present value calculations, and the following alternate values were used in calculations:

	Base Case	Best Case
College Costs[1]		
4-Year School	$4,410	$3,410
2-Year School	$635	$635
College Enrollment Rates[2]		
Alumni	80%	80%
Dropouts	60%	75%
College Completion[2]		
Alumni	65% complete 4-year degrees; 75% complete 2-year degrees	75% complete 4-year degrees; 85% complete 2-year degrees
Dropouts	55% complete 4-year degrees; 65% complete 2-year degrees	65% complete 4-year degrees; 75% finish 2-year degrees
Lost Wages During College[3]	94% employment rate	80% employment rate
Time Devoted to Program[2]	Time = $4.13/hour	Time = $2/hour
Taxpayer Savings[4]	Cost/Youth = $170,740	Cost/Youth = $200,000

Source: All figures represent author's calculations

[1] College Board. 2015.

[2] Author's personal communication with Urban Alliance staff. 2016.

[3] Bureau of Labor Statistics. 2015b.

[4] Belfield et al. 2012.

Thus, if the program were to exceed base-case expectations (primarily by connecting more interns—both alumni and those who drop out early—to college and other resources) the net benefits of the program amount to approximately $49 million. Increased future earnings of interns and taxpayer savings drive this result.

Table 6. Best Case Costs for One Cohort by Group and Line Item

Group	Description of Cost	Estimated Costs
Program Alumni	Work Commute[1]	$99,000
	Time Devoted to Program[2]	$113,000
	Lost Wages while in College[3]	$1,619,000
	Cost of College[4]	$405,000
Program Dropouts	Work Commute[1]	$24,000
	Time Devoted to Program[2]	$24,000
	Lost Wages while in College[3]	$188,000
	Cost of College[4]	$90,000
Job Partners	Sponsoring Interns[2]	$875,000
	Completing Evaluations and Surveys[5]	$13,000
Philanthropic Donors	Sponsoring Interns[2]	$875,000
Grant Funders (via Urban Alliance)	DC Program Team[2]	$630,000
	Support from National Team[2]	$252,000
Total Costs		**$5,207,000**

Source: All figures represent author's calculations

[1] Washington Metropolitan Area Transit Authority. 2014.
[2] Author's personal communication with Urban Alliance staff. 2016.
[3] Bureau of Labor Statistics. 2015b.
[4] College Board. 2015.
[5] Bureau of Labor Statistics. 2014b.

Table 7. Best Case Benefits for One Cohort by Group and Line Item

Group	Description of Benefit	Estimated Benefits ($1,000s)
Program Alumni	Current Earnings[1]	$102,000
	Increased Future Earnings[2]	$29,230,000
Program Dropouts	Current Earnings[1]	$12,000
	Increased Future Earnings[2]	$8,045,000
Job Partners	Mentors Gain Supervisory Experience[3]	$9,160,000
Urban Alliance Staff	Staff Salaries[1]	$882,000
Taxpayers	Fewer Recipients of Publically-Funded Services[4]	$6,888,000
Total Benefits		**$554,319,000**

Source: All figures represent author's calculations
[1] Author's personal communication with Urban Alliance staff. 2016.
[2] Bureau of Labor Statistics. 2015b.
[3] Bureau of Labor Statistics. 2014a.
[4] Belfield et al. 2012.

OTHER CONSIDERATIONS

While the DC HSIP program appears to be highly efficient, with relatively high net benefits in even the worst-case scenario, it is important to address the issue of external validity. Though the HSIP application is open to any high school student in Washington, DC, who chooses to apply is not random. Some students are more motivated to apply—in order to fill out their resumes and college applications, make money, etc. —and, in fact, the program itself seeks out a particular group of high school student. It does not, for instance, market itself in local private high schools or to higher-income students, but draws in relatively under-resourced, lower-income, motivated students. This selection approach is well known and even purposeful: the overarching goal of the program is to connect under-resourced youth to opportunities for advancement (personal communication 2016).

Urban Alliance experiences significant attrition throughout the program year. This analysis assumes that of the 140 interns that begin the program, around two-thirds will finish, based on interviews with Urban Alliance staff. Who stays, and for how long, is also not random. Theoretically, the most motivated of the interns, or perhaps those with the fewest alternative options for resources, are more likely to finish the program than those interns who have other options (for instance, athletic scholarship opportunities) or who are less motivated (Theodos et al. 2014). While it is possible that, in the absence of the HSIP, alumni

would have found other opportunities to gain professional work experience and/or college counseling, this analysis assumes that they do not.

The RCT currently being conducted by the Urban Institute will help shed light on the impact of these selection and motivation biases by comparing Urban Alliance interns to a control group of similar high school youth. The RCT will also deliver more detail on the outcomes of both program alumni and dropouts as it tracks them for five years post-program. This will be especially important for estimates of program dropouts' outcomes, which here are presented as estimates. Hopefully, the study will provide more insight into how incomplete interaction with the program affects youth outcomes, such as the likelihood of enrolling in and finishing college. This cost-benefit analysis should be revisited and revised as more concrete data become available.

CONCLUSION

Seven million young adults aged 16 to 24—nearly one-fifth of the American youth population—are currently disconnected from education and employment, two of the most basic pathways toward self-sufficient adulthood (Belfield et al. 2012). Large-scale youth disconnection has serious ramifications for both the youth themselves and the broader American population. Not only do these disconnected youth experience high unemployment and low, often insufficient, earnings, but each disconnected youth also produces a nearly $170,000 cost to taxpayers throughout his or her lifetime, for an aggregate taxpayer burden of $1.6 trillion (Belfield et al. 2012). Fortunately, there are a number of youth development initiatives across the country, working to resolve youth disconnection.

As one of these initiatives, the Urban Alliance High School Internship Program in Washington, DC serves an important function: to connect under-resourced youth to opportunities for self-advancement and economic self-sufficiency. By providing high school seniors with paid internships in professional organizations, as well as post-secondary education and career counseling, Urban Alliance has connected 77 percent of the DC youth it serves to higher education or livable-wage jobs (personal communication 2016). Putting these youth on a track to lead lives of self-sufficiency has benefits that extend beyond the youth themselves to include taxpayers, Urban Alliance job partners, and various colleges and universities.

This study represents the first cost-benefit analysis of Urban Alliance, and it estimates that the program's net benefits are between $6.6 and $49 million per cohort of youth served, with a base-case estimate of about $19 million. This indicates that the program is efficient and suggests that it should continue to operate in the foreseeable future. While these findings are specific to the Urban Alliance High School Internship Program in Washington, DC, it is likely that Urban Alliance's internship programs in its three other locations yield similar results. Youth employment programs such as Urban Alliance stand to make a positive impact in mitigating youth disconnection, and should be considered for future youth development policy and programming.

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