



**BOYS & GIRLS CLUBS**  
OF METROPOLITAN PHOENIX

***Economic Impact and  
Social Return on Investment, 2014***

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## EXECUTIVE SUMMARY

- In 2014-2015, the Boys and Girls Clubs of Metro Phoenix (BGCMP) are estimated to generate \$18.22 of benefits in Maricopa County for every \$1 invested in the operations and capital expenditure of their 13 Clubs, a Dental Clinic, and the local Program Services Center.
- This is based on a quantification and monetization of the following benefits for Club members, their parents/caregivers, and the wider Maricopa County community as a whole:
  - Improved rates of high school graduation;
  - Reduced levels of teenage pregnancy and motherhood;
  - Reduced levels of underage drinking;
  - A lower propensity to smoke/consume tobacco;
  - Reduced levels of marijuana use;
  - A decline in juvenile criminal activity;
  - An enhanced opportunity for parents to continue working; and
  - The total economic impact (direct, indirect, and induced) of BGCMP operations and volunteers for the Maricopa County economy.
- The 2014-2015 data inputs provided by BGCMP are as follows:

TYPE OF INPUT	VALUE
Total Operational Expenditure	\$9,392,810
Total Capital Expenditures	\$1,681,597
Full-Time Employees	80
Part-Time Employees (Year-Round)	117
Part-Time Employees (Summer)	39
Part-Time Hours (Total)	181,000
FTE Employees of PT Employees Hours Worked	60.6
Volunteers	823
Volunteer Hours Worked	12,368
FTE of Volunteer Hours Worked	6
Club Members	10,328
Total Households Served	6,760

Source: BGCMP

- The following table summarizes the monetary benefits or impact of BGCMP for Maricopa County.

BENEFIT TYPE	MONETARY VALUE (2016 \$)
Higher Graduation Rates and Lifetime Earnings	\$11,059,738
Lower Teen Pregnancy and Motherhood Rates	\$5,223,775
Lower Underage Drinking Savings	\$2,975,576
Lifetime Non-Smoker Savings	\$43,975,440
Lifetime Lower Marijuana Usage Savings	\$626,449
Juvenile Crime Savings	\$800,984
Annual Working Parent Benefit	\$126,170,730
Annual Impact of BGCMP Operations, Capital Expenditure, & Volunteers	\$14,064,039
<b>TOTAL VALUE OF BENEFITS</b>	<b>\$204,897,011</b>
<b>TOTAL 2014-2015 COSTS</b>	<b>\$11,244,016</b>
<b>ESTIMATED RETURN ON INVESTMENT</b>	<b>\$1:\$18.22</b>

Source: Authors' calculations

- The total value of all socio-economic benefits is estimated at \$204.9 million (2016 \$).
- 34 additional 17 and 18 year olds in BGCMP graduated from high school, compared to the cumulative rate of graduation for the School Districts served by the Clubs, potentially generating work-life earnings benefits of at least \$11 million over 40 years.
- 37 Club members avoided becoming a teenage mom, compared to the Maricopa County rate of 17.4 births per 1,000 females age 19 or under, resulting in a total lifetime saving of over \$5.2 million (2016 \$).
- 433 BGCMP members age 13-18 potentially abstained from underage drinking, equating to a saving or benefit of almost \$3 million (2016 \$).
- 120 additional teenage Club members are estimated to have abstained from tobacco, equating to a potential lifetime saving or benefit of approximately \$44 million (2016 \$).

- 125 additional BGCMP teenagers potentially abstained from marijuana usage in 2014-2015, generating an annual conservative outpatient healthcare saving of \$626,500 (2016 \$). This excludes any criminal costs or productivity losses.
- 52 juveniles/youths refrained from criminal activity in Maricopa County, all other things being equal, equating to a total single-year saving of \$801,000 (2016 \$).
- 4,155 Club member households continued to work thanks to the provision of safe, affordable after-school care at BGCMP, benefitting the Arizona economy by \$126 million in one year (2016 \$).
- The total impact of BGCMP on the State of Arizona economy in 2014-2015, encompassing “paid-for” operations, capital expenditure, and the in-kind support of volunteer workers, is an estimated 255.6 jobs, \$11 million labor income, and \$14.1 million GSP (both 2016 \$).
- The generation of an estimated \$18.22 benefits for every \$1 spent by BGCMP is a significant but conservative rate of return.
- Seidman’s estimate of total impacts is conservative for at least two reasons:
  - There is considerable overlap between benefits. To compensate for this, Seidman adjusted the monetization of individual benefits. If each benefit is analyzed in isolation, the actual return on investment will in most cases be higher than the values quoted in this study.
  - There are additional benefits excluded from the current assessment due to inadequate data. These include the impact of healthy eating and drinking or enhanced levels of physical activity on obesity; and the presence of the Clubs enabling parents to continue studying in part to increase their future lifetime earnings potential.

## INTRODUCTION

For more than 100 years, the Boys & Girls Clubs of America (BGC) have changed and saved lives, enabling young people to achieve great futures as productive, caring, and responsible citizens. Approximately 4,100 Clubs nationwide currently offer membership and community outreach benefits to 4 million children and teenagers every year.

Ranked 19<sup>th</sup> in *The Chronicle of Philanthropy's* Top 25 U.S. Charities: 2014,<sup>1</sup> 13 of the 4,100 Boys & Girls Clubs are located in Phoenix and the West Valley, listed in Table 1. In 2014-15, these 13 Clubs offered affordable after-school and summer programs for 10,328 young people in grades K-12 in the metro Phoenix area.<sup>2</sup> BGC's award-winning programs are designed to change the lives of young people in four key areas:

- Fun with a Purpose;
- Academic Success;
- Be Great, Do Good; and
- Healthy Choices.

**Table 1: The 13 Boys & Girls Clubs of Metro Phoenix (BGCMP) Branches**

BOYS & GIRLS CLUBS OF METRO PHOENIX (BGCMP)		
Jerry Colangelo Branch	Jerry & Helen Wisotsky/Peoria Branch	Swift Kids Branch
Warner A. Gabel Branch	Ed Robson Family Branch	Woodrow C. Scoutten/Tolleson Branch
I.G. Homes Branch	Harry & Sandy Rosenzweig Branch	Tri-City West Thornwood Branch
MLB All-Star AZ D-Backs Branch	Louis & Elizabeth Sands Branch	
Bob & Renee Parsons Branch	Spencer D. & Mary Jane Stewart Branch	

Source: *Boys & Girls Clubs Metro Phoenix*

<sup>1</sup> The Chronicle of Philanthropy. Top 25 U.S. Charities: 2014, *Think Advisor*, October 22, 2014. Available at: <http://www.thinkadvisor.com/2014/10/22/top-25-us-charities-2014>

<sup>2</sup> BGCMP Program Services Center email dated August 18, 2016.



In addition to the after-school programs, the Boys & Girls Clubs of Metro Phoenix (BGCMP) offer a Summer Camp to keep kids active and engaged with a positive peer group and prevent potential summer learning loss. A Bob & Renee Parsons Dental Clinic also treats low-income, uninsured children throughout the community.

In February 2011, BGCMP in partnership with Clubs based in Greater Scottsdale and the East Valley published a comprehensive assessment of the many ways in which Valley of the Sun Boys & Girls Clubs create economic value in the State of Arizona.<sup>3</sup> This study estimates that:

- Boys & Girls Clubs in the Valley of the Sun generate \$19.33 of positive economic impacts for every \$1 spent.
- This includes \$13.14 in parental earnings for every \$1 spent by the Clubs.
- The total value of all socio-economic impacts for the State of Arizona is \$338.5 million (2011 \$).

Following the publication of the 2011 report, Boys & Girls Clubs operating in Florida and California replicated Damooei Global Research's method to estimate similar socio-economic impacts in their respective communities.

The primary purpose of this report is to update the 2011 study, and quantify the current economic and social impact of all 13 BGCMP Clubs, programs and services to families and the broader community. This includes the design and/or implementation of Club member and parent/caregiver surveys, alongside a review of publicly available secondary data. This will include:

- A comprehensive series of benefit-cost ratios, to monetize the social impact of BGCMP;
- An estimate of the economic impact of BGCMP's capital and operational expenditure;
- An estimate of the economic impact of BGCMP's volunteer labor hours; and
- A total return on investment monetary estimate.

The updated results outlined in this study will be primarily used by BGCMP as a key component of future donor stewardship and public relations.

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<sup>3</sup> Damooei, J., and Damooei, A.A., (2011). *Valley of the Sun Boys & Girls Clubs – Economic Impact Report*, Damooei Global Research. Available at: [https://bgcs.org/wp-content/uploads/2014/09/economic\\_impact\\_study.pdf](https://bgcs.org/wp-content/uploads/2014/09/economic_impact_study.pdf)

## 2.0 DATA COLLECTION & METHODOLOGY

To ensure consistency with the Damooei 2011 report, the following method is implemented in the current study:

- (a) Primary data is collected from Club members, and the parents/caregivers of Club members. Club members are surveyed as part of an annual National Youth Outcomes Initiative (NYOI) survey managed by the BGC in Atlanta, Georgia. Described as “...a system built to measure the impact of Boys & Girls Clubs in a consistent manner using a common set of research-informed indicators of our priority outcomes,”<sup>4</sup> the NYOI survey was completed by 1,620 BGCMP Club members in February and March 2016. Over 1,000 parents and caregivers are also separately surveyed in English or Spanish online via a PC or tablet, or offline via a paper survey. A copy of the survey instrument is included in the Appendix. The distribution of parent/caregiver survey responses by Club is shown in Table 2. The survey sample error is 2.8% at 95% confidence interval. Key themes investigated as part of the parent/caregiver survey include: challenges and motivations for Club participation and childcare; a series of Likert-scale questions addressing changes in child behavior and family consequences; and key demographics such as employment status, household income; marital status; and ethnicity.
- (b) Additional qualitative insights are sourced from two focus groups, cumulatively attended by over 20 parents or caregivers of members at Stewart and Rosenzweig Clubs in March 2016. The BGCMP Program Services Center is responsible for the choice of the two Clubs for the focus groups.
- (c) Club-specific data for the total number of Club members, their gender and age profiles, employment, volunteers, teenage pregnancies and budgetary information is sourced from the BGCMP Program Services Center.

The total expenditure of BGCMP in 2014-2015 is \$11,074,407 (2015 \$).<sup>5</sup> This consists of \$9,392,810 expenditure to operate the 13 Clubs and the Dental Clinic; and \$1,681,597 capital expenditures.<sup>6</sup> This equates to \$11,244,016 expressed in 2016 dollars.

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<sup>4</sup> Boys & Girls Clubs of America, (2014). *National Youth Outcomes Initiative - 2014 Outcomes Report*. Page 2. Available at: [http://www.bgca.org/whoweare/Documents/2014\\_National\\_Outcomes\\_Report-FINAL.pdf](http://www.bgca.org/whoweare/Documents/2014_National_Outcomes_Report-FINAL.pdf)

<sup>5</sup> The 2015-2016 budget was not available, but few, if any, differences are anticipated.

<sup>6</sup> This is based on a client communication.

**Table 2: Distribution of Parent/Caregiver Survey Responses**

	NUMBER	% OF FAMILIES SERVED	% OF RESPONDENTS
Colangelo	70	11%	7%
D-Backs	101	20%	10%
Gabel	71	16%	7%
Homes	69	19%	7%
Parsons	105	22%	10%
Peoria	62	15%	6%
Robson	79	11%	8%
Rosenzweig	78	13%	8%
Sands	64	10%	6%
Stewart	109	20%	10%
Swift	77	15%	7%
Tolleson	76	17%	7%
Tri-City	78	17%	8%
<b>Total</b>	<b>1,039</b>	<b>15%</b>	<b>100%</b>

Source: Authors

To comprehensively quantify the benefits of the BGCMP, Seidman also draws from data produced by:

- The Alliance for Excellent Education
- American Community Survey
- Arizona Criminal Justice Commission
- Arizona Department of Education
- Arizona Department of Health Services (ADHS)
- Arizona Department of Public Safety
- Arizona Judicial Department
- Arizona Youth Survey
- ASU Morrison Institute for Public Policy
- Bureau of Labor Statistics
- The Campaign for Tobacco-Free Kids
- Center for Disease Control and Prevention (CDC)
- Child Care Resource & Referral (CCRR)
- The Children’s Action Alliance

- The Council of State Governments
- The Governor’s Office for Children, Youth and Families Division for Substance Abuse Policy
- The Justice Policy Institute
- The National Campaign to Prevent Teen and Unplanned Pregnancy (NCPTUP)
- The National Center for Children in Poverty
- The National Institute on Drug Abuse
- Office of Juvenile Justice and Delinquency Prevention (OJJDP)
- Pacific Institute for Research and Evaluation
- Robert Wood Johnson Foundation
- The Supreme Court of Arizona
- Think Progress
- The Trust for America’s Health
- The Truth Initiative
- The United Nations
- The U.S. Census Bureau
- The U.S. Department of Health and Human Services
- The U.S. Department of Justice National Drug Intelligence Center

An explanation of metrics used is provided where appropriate in Sections 3 and 4.

Consistent with the 2011 Damooei study, an IMPLAN input-output model customized for the State of Arizona is used to estimate the economic impact of BGCMP’s annual operations, capital expenditure and volunteer workforce. Additional reflections on the IMPLAN model and the data inputs are provided in Section 5.

## 3.0 BENEFITS OF BOYS & GIRLS CLUBS FOR MEMBERS

The 2011 Damooei study identified five ways in which Club members can potentially benefit as a result of their attendance at a Boys & Girls Club. These are:

- Improved rates of high school graduation;
- Reduced levels of teenage pregnancy and motherhood;
- Cost savings generated by reductions in juvenile criminal activity;
- Lower tendency to participate in substance abuse; and
- Improved healthy habits and increased physical activity.

The current Section will address each of these benefits separately, including a more comprehensive breakdown of substance abuse, and estimate, where possible, a monetary value for Maricopa County.

### 3.1 High School Graduation

A high school graduation rate is an important indicator of school performance used by both federal and state governments, alongside student test scores. Students who drop out of high school typically earn much less money during their lifetimes, compared to their peers. The 2011 Damooei study also notes that high school dropouts face much higher rates of unemployment, live shorter lives, and have greater reliance on government assistance.

The Arizona Department of Education computes the four-, five-, six-, and seven-year graduation rate for every public high school in the state, using a method that conforms to the 2008 non-regulatory guidance issued by the U.S. Department of Education and to the National Governors Association Compact on State High School Graduation Data. Table 3 summarizes the 2014 four-year high school graduation rate for School Districts served by one or more of the 13 BGCMP included in the current study. The table states that the graduation rate ranges from 77.1% in Phoenix Union High School District to 92.9% in Peoria Unified School District. The average graduation rate for all seven School Districts served by BGCMP is 85.2%.

**Table 3: 2014 High School Graduation Rates for School Districts Served by BGCMP**

	NUMBER OF GRADUATES	TOTAL INTAKE	GRADUATION RATE
Phoenix Union High School District	4,639	6,016	77.1%
Peoria Unified School District	2,798	3,012	92.9%
Paradise Valley Unified School District	2,114	2,395	88.3%
Deer Valley Unified School District	2,356	2,560	92.0%
Glendale Union High School District	2,969	3,345	88.8%
Tolleson Union High School District	1,930	2,385	80.9%
Agua Fria High School District	1,480	1,756	84.3%
<b>TOTAL</b>	<b>18,286</b>	<b>21,469</b>	<b>85.2%</b>

Source: Arizona Department of Education<sup>7</sup>

The National Youth Outcomes Initiative (NYOI) 2016 survey estimates that 94.6% of Boys & Girls Club 11<sup>th</sup> and 12<sup>th</sup> Grade members in metro Phoenix expect to graduate from high school. This BGCMP graduation rate is 9.6% higher than the average School District graduation rate in all seven districts 2014. This suggests Club members could be more likely to graduate from high school.

In 2014-2015, BGCMP has 359 members in 11<sup>th</sup> and 12<sup>th</sup> Grade. Applying the NYOI estimated high school graduation rate to these members, it's possible that an additional 34 17 and 18 year olds will graduate from high school, thanks in part to their attendance at BGCMP.

**Table 4: Median Earnings by Educational Attainment in Maricopa County for Ages 25+ in 2014**

	ESTIMATED MEDIAN INCOME (2014 \$)	MARGIN OF ERROR
Less than high school graduate	20,167	+/-261
High school graduate (includes equivalency)	28,167	+/-438
Some college or associate's degree	35,835	+/-273
Bachelor's degree	51,337	+/-431
Graduate or professional degree	65,835	+/-806
<b>TOTAL</b>	<b>36,731</b>	<b>+/-168</b>

Source: American Community Survey<sup>8</sup>

<sup>7</sup> Source: <http://www.azed.gov/research-evaluation/graduation-rates/>

<sup>8</sup> American Community Survey 2010-2014 Five Year Estimates Table B20004

Table 4 illustrates annual median earnings for Maricopa County residents in 2014, based on their educational attainment, as estimated by the American Community Survey. This suggests that in 2014, a Maricopa County high school graduate earned on average \$8,000 more a year than an individual who did not graduate from high school.

Using the Bureau of Labor Statistics CPI Inflation Calculator to adjust for differences in the value of the dollar today compared to 2014,<sup>9</sup> and based on an estimated 40 years' lifetime earnings,<sup>10</sup> this could amount to a cumulative high school graduation work-life earnings benefit of \$11,059,738 for the additional 34 17 and 18 year olds estimated to graduate as a result of their attendance at BGCMP. Table 5 summarizes the calculations used to arrive at this monetary value.

**Table 5: Estimated Lifetime Earnings Impact of Additional High School Graduates**

AVERAGE HIGH SCHOOL GRADUATION RATE IN SCHOOL DISTRICTS	ESTIMATED PERCENTAGE OF HIGH SCHOOL GRADUATES IN BGCMP	ADDITIONAL NUMBER OF HIGH SCHOOL GRADUATES	ANNUAL INCREASE IN MEDIAN INCOME PER HIGH SCHOOL GRADUATE (2016 \$)	TOTAL ANNUAL INCREASE IN MEDIAN INCOME (2016 \$)	TOTAL ESTIMATED WORK-LIFE INCREASE IN INCOME (2016 \$)
85.2%	94.6%	34	\$8,132.16	\$276,493.44	\$11,059,737.60

Source: Authors' Calculations

Consistent with the 2011 Damooei study, it is important to note that the \$11.1 million benefit is in all probability an underestimation, as there is no objective means to account for the fact that some Club members could attain even higher academic qualifications and thereby earn even more than a high school diploma holder in their working lives.

### 3.2 Teenage Pregnancy and Motherhood

In 2013, the United States had a teen birth rate of 26.5 births for every 1,000 females ages 15-19. This positions the United States in the top 5 nations for teenage moms, compared to European nations, Australia, Canada, Japan, New Zealand, and South Korea, as illustrated in Table 6.

<sup>9</sup> Source: [http://www.bls.gov/data/inflation\\_calculator.htm](http://www.bls.gov/data/inflation_calculator.htm)

<sup>10</sup> Damooei's 2011 study assumed a 37-year working life per high school graduation. However, the average retirement age for American men in 2013 is 63.9, and for women 61.9. A 40-year working life is therefore used in the current study.

**Table 6: Live Births for Moms ages 15-19**

NATION	DATA YEAR	NUMBER OF BIRTHS	RATE PER 1,000 FEMALES AGES 15-19
Azerbaijan	2012	20,333	51.4
Bulgaria	2013	6,670	41
Ukraine	2011	35,559	27.9
Armenia	2009	4,035	27.6
<b>USA</b>	<b>2013</b>	<b>273,105</b>	<b>26.5</b>
Russian Federation	2011	103,533	25.2
Romania	2013	17,944	23.8
Slovakia	2013	3,325	22
Belarus	2013	2,013	21.4
Hungary	2013	5,701	21.1
Latvia	2012	1,038	20.3
Albania	2013	2,613	20.3
New Zealand	2014	2,895	19
Serbia	2013	3,389	18.1
UK	2013	32,675	17.3
Macedonia	2013	1,155	17.1
Estonia	2013	497	16
Australia	2013	10,314	14.5
Lithuania	2013	1,262	14.2
Canada	2009	15,534	14.1
Poland	2013	14,444	13.7
Bosnia-Herzegovina	2010	1,792	13.5
Malta	2013	159	13.1
Montenegro	2013	248	11.9
Czech Republic	2013	2,816	11.3
Croatia	2013	1,270	10.6
Faeroe Islands	2007	20	10.5
Portugal	2013	2,808	10.4
Israel	2013	3,165	10.4
Ireland	2013	1,375	10.3
France	2012	17,512	9.4
Spain	2013	8,753	8.4
Greece	2013	2,172	8.1
Austria	2013	1,872	8
Germany	2013	15,247	7.8
Iceland	2013	81	7.4
Finland	2013	1,137	7.4
Belgium	2013	2,231	7.2
Italy	2013	8,071	5.9
Norway	2013	892	5.6
Sweden	2013	1,424	5.3
Luxemburg	2013	82	5.2
Slovenia	2013	221	4.7
Japan	2013	12,913	4.4
Denmark	2013	738	4.3
Netherlands	2013	1,901	3.9
Switzerland	2013	632	3
Andorra	2012	5	2.8
South Korea	2013	2,813	1.8

Source: United Nations 2014 Demographic Yearbook



The relatively high teenage mom rate in the United States has real and tangible costs for the national economy. This includes increased health care and foster care costs; lost tax revenue due to lower educational attainment and incomes among teen moms; and an increased risk of incarceration. The National Campaign to Prevent Teen and Unplanned Pregnancy (NCPTUP) argues that serious social problems including child poverty, child abuse and neglect, father-absence, low birth weight, school failure, and inadequate workforce preparation could be reduced by preventing teen and unwanted pregnancies.<sup>11</sup>

The Alliance for Excellent Education reports that 34% of young teen moms do not earn a college degree or a high school diploma, and less than 2% earn a degree by the time they turn 30.<sup>12</sup>

Figure 1 illustrates the pregnancy and live birth rates for 15-19 year olds in the State of Arizona, 2004 to 2014. The live birth rate in the state in 2013 is 31.3 per 1,000 teens ages 15-19, which is over 17% higher than the United States figure reported by the United Nations.

In 2014, the Arizona Department of Health Services (ADHS) reports that 7,856 females ages 15-19 are pregnant throughout the state, 83.7% of which give birth to a live child. This equates to a pregnancy rate of 35.7 per 1,000 15-19 year olds in the state, and a live birth rate of 29.9 babies per 1,000 15-19 year olds.<sup>13</sup> ADHS also estimates that 4,707 of the pregnancies in 2014 are in Maricopa County. This results in a pregnancy rate of 35.4 per 1,000 15-19 years old females in Maricopa County, and a live birth rate of 29.1. For females age 19 or younger in Maricopa County, the pregnancy rate is 17.4 per 1,000. Approximately 83.7% of pregnancies lead to live births in the state in 2014.

No parent of a teenage girl Club member (7<sup>th</sup> Grade and upwards) indicates that their child has fallen pregnant in the parent survey, although 3 refuse to answer. Club staff also collectively report that 3 female Club members have fallen pregnant during the year of study, thereby supporting the parents' survey data. This equates to a pregnancy rate of 1.3 per 1,000 female Club member ages 10-19 – a difference of 14.1 pregnancies per 1,000 compared to females age 19 or younger in Maricopa County.

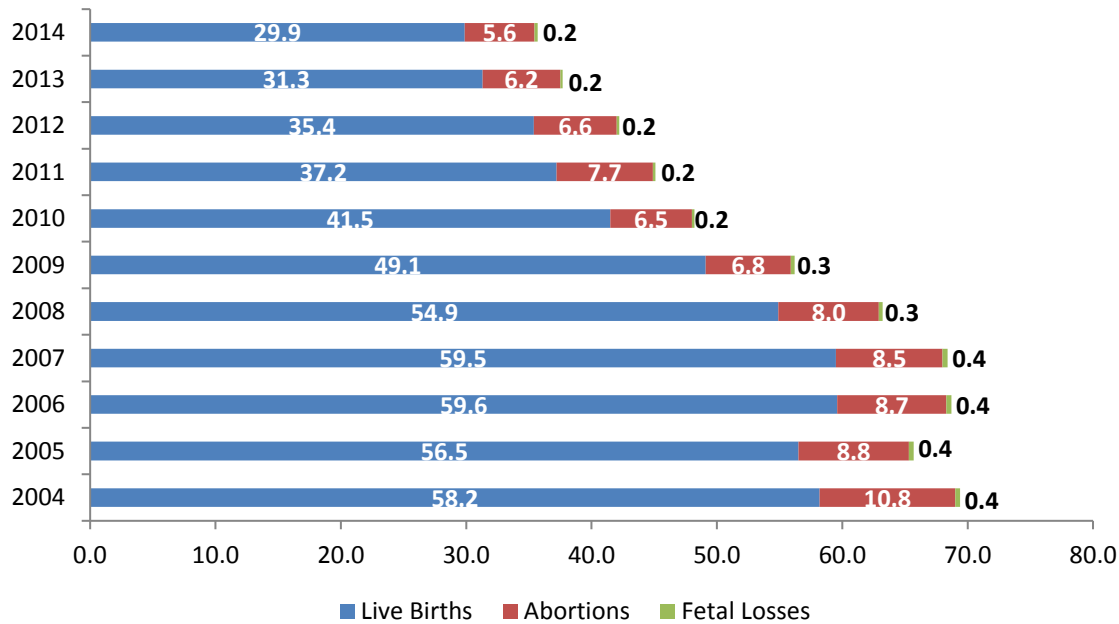
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<sup>11</sup> The National Campaign to Prevent Teen and Unplanned Pregnancy, (2016). *Making the Case: For Wanted and Welcomed Pregnancy*. Available at: <https://thenationalcampaign.org/why-it-matters>

<sup>12</sup> Think Progress, (2012). *Teen Pregnancy Negatively Impacts the National Economy*. June 8, 2012. Available at: <https://thinkprogress.org/teen-pregnancy-negatively-impacts-the-national-economy-cc2901eaf705#.hbgve8wjr>

<sup>13</sup> Arizona Department of Health Services (2016). *Population Health and Vital Statistics: Teenage Pregnancy 2004-2014*. Available at: <http://www.azdhs.gov/plan/report/tp/2014/index.php>

**Figure 1: Teenage Pregnancy Rates for 15-19 Year Olds in Arizona, 2004-2014**



Source: Arizona Department of Health Services<sup>14</sup>

The National Campaign to Prevent Teen and Underage Pregnancies (NCPTUP) estimates the annual public cost of teenage pregnancies in Arizona in 2010 at \$1,685 per live birth. These annual costs are described as being applicable for 15 years. They are net costs “...above and beyond what would have happened if a mother had delayed childbearing until 20 or 21.”<sup>15</sup> That is, they only take into account the increase in costs associated with having a child age 19 or younger, compared to having a child at age 20 or older. The NCPTUP net annual public costs consist of public sector health care costs (Medicaid and CHIP), increased child welfare costs, costs of incarceration, and lost tax revenue for teen moms and fathers. Using the Bureau of Labor Statistics CPI Inflation Calculator, this is equivalent to \$1,859.57 in 2016 dollars (2016 \$). The total 15-year public cost per live birth in the State of Arizona is therefore \$27,893.55 (2016 \$).

In addition, NCPTUP/Planned Parenthood argue that the children of teen mothers are more likely to be unemployed as adults or become teenage parents themselves compared to those born to women who

<sup>14</sup> Source: <http://www.azdhs.gov/plan/report/tp/2014/index.php>

<sup>15</sup> Source: <https://thenationalcampaign.org/why-it-matters/public-cost/faqs>

delay childbearing. They are also three times as likely to be incarcerated during their adolescence or early 20s.<sup>16</sup>

The NCPTUP cost includes a lost tax revenue cost for both teenage moms and dads, but does not consider future lifetime productivity losses. The Alliance for Excellent Education estimates the future lifetime productivity losses per teen pregnancy at \$260,000 per birth (2008 \$).<sup>17</sup> Applying the BLS CPI inflator, this is equivalent to \$290,605 per birth in 2016, all other things being equal. An earlier study found that the fathers of children born to teen moms earn an estimated average of \$3,400 less per year than the fathers of children born to moms who are 20 or 21, over the course of 18 years following the birth of their first child (Annie E. Casey Foundation, 1998).

If the purpose of the current study was to investigate BGCMP’s ability to lower teen pregnancy and motherhood rates in isolation from other benefits, use of the Alliance for Excellent Education future lifetime productivity losses per birth would be justified. However, the Center for Disease Control and Prevention (CDC) estimates that approximately 50% of teen moms never graduate from high school.<sup>18</sup> To avoid potential double counting of benefits with regard to high school graduation, the future lifetime productivity losses per teen mom in Table 7 is only applied to half of the estimated teenage births avoided.

**Table 7: Estimated Lifetime Saving for BGCMP’s Lower Teen Pregnancy Rate**

2014 MARICOPA COUNTY PREGNANCY RATE PER 1,000 FEMALES AGES 10-19	CURRENT BGCMP PREGNANCY RATE PER 1,000 FEMALES AGES 10-19	ESTIMATED NUMBER OF TEEN PREGNANCIES AVOIDED	NUMBER OF PREGNANCIES LEADING TO LIVE BIRTHS	15-YEAR PUBLIC COST SAVING PER LIVE BIRTH (2016 \$)	FUTURE LIFETIME PRODUCTIVITY LOSSES PER TEEN PREGNANCY (2016 \$)	TOTAL ESTIMATED LIFETIME SAVINGS FROM TEEN PREGNANCY REDUCTION (2016 \$)
17.4	1.3	37	84%	\$27,983.55	\$290,605	\$5,223,775

Source: Authors’ Calculations

The total lifetime saving from a reduction in teenage pregnancies among BGCMP Club members in 2014-2015 is therefore estimated at over \$5.2 million (2016 \$).

<sup>16</sup> Planned Parenthood (2013). *Pregnancy and Childbearing Among US Teens*. June 2013. Available at: [https://www.plannedparenthood.org/files/2013/9611/7570/Pregnancy\\_And\\_Childbearing\\_Among\\_US\\_Teens.pdf](https://www.plannedparenthood.org/files/2013/9611/7570/Pregnancy_And_Childbearing_Among_US_Teens.pdf)

<sup>17</sup> Alliance for Excellent Education. (2008). *The High Cost of High School Dropouts: What the Nation Pays for Inadequate High Schools*. Washington, DC: Alliance for Excellent Education.

<sup>18</sup> CDC (2016). *About Teen Pregnancy*. *cdc.gov*. April 26, 2016. Available at: <http://www.cdc.gov/teenpregnancy/about/>

### 3.3 Cost-Saving Reduction in Underage Drinking

Underage drinking has potential health, social and economic implications. An estimated 192,000 youths participate in underage drinking in Arizona, thereby costing the state in excess of \$1.32 billion or \$6,872 per underage drinker (both 2016 \$).<sup>19</sup> Young people who start drinking before they are 15 are four times more likely to develop alcohol dependence in later life.<sup>20</sup>

An Arizona Youth Survey (AYS) is conducted on a biennial basis in accordance with ARS § 41-2416. Targeted at students in 8<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup> Grades, the purpose of the survey is to assess and monitor attitudes towards, and prevalence of, substance-abuse and street gang activities. It asks students if they have previously drunk alcohol during two time horizons: (a) the past 30 days; and (b) at any point in the past. The most recent data is 2014 for both the State of Arizona and Maricopa County. Questions about alcohol consumption are also included in the NYOI survey completed by BGCMP Club members in spring 2016.

Table 8 compares the alcohol findings of both surveys. This suggests that the rate of alcohol consumption in the past 30 days is 18.4 percentage points higher in Maricopa County compared to the BGCMP Club member survey. This equates to an underage drinking reduction of 184 children per 1,000 BGCMP Club members.

**Table 8: Comparison of Underage Drinking Survey Data**

	Yes - In Past 30 Days		Yes – Ever	
	AYS MARICOPA COUNTY	NYOI BGCMP	AYS MARICOPA COUNTY	NYOI BGCMP
Drink Alcohol?	23.4%	5%	44.6%	22.4%

Sources: Arizona Youth Survey 2014 and National Youth Outcomes Initiative 2016

<sup>19</sup> Pacific Institute for Research and Evaluation, (2015). *Underage Drinking in Arizona: The Facts*. March 2015. Available from: <http://resources.prev.org/factsheets/AZ.pdf>

<sup>20</sup> Grant, B.F., and Dawson, D.A., (1997). Age at Onset of Alcohol Use and its Association with DSM-IV Alcohol Abuse and Dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse*. Vol. 9 pages 103-110.

There are 2,353 BGCMP members age 13 or older in 2014-2015. Using the alcohol consumption data for the past 30 days, this suggests that an additional 433 BGCMP teenagers abstain from underage drinking, compared to the Maricopa County average.

**Table 9: Estimated Lifetime Saving of BGCMP Club Members’ Lower Propensity to Drink Alcohol**

PERCENTAGE OF MARICOPA COUNTY TEENS DRINKING ALCOHOL IN PAST 30 DAYS	PERCENTAGE OF BGCMP TEENS DRINKING ALCOHOL IN PAST 30 DAYS	ESTIMATED NUMBER OF UNDERAGE DRINKERS AVOIDED	COST PER UNDERAGE DRINKER IN ARIZONA (2016 \$)	TOTAL ESTIMATED ANNUAL SAVINGS FROM UNDERAGE DRINKING REDUCTION (2016 \$)
23.4%	5.0%	433	\$6,872	\$2,975,576

Source: Authors’ Calculations

Applying the statewide average cost per underage drinker, this equates to an annual saving or benefit of \$2,975,576 (2016 \$).

### 3.4 Cost-Saving Reduction in Underage Smoking

The CDC estimates over 3,200 youths ages 18 or under smoke their first cigarette each day in the United States. Although cigarette consumption is declining nationwide, 2.3% of middle school students and 9.3% of high school students in 2015 report smoking cigarettes in the past 30 days. Furthermore, 7.4% of middle school students and 25.3% of high school students state that they have used some type of tobacco product.<sup>21</sup>

The Campaign for Tobacco-Free Kids highlights difficulties in the production of state rankings for youth smoking due to the prevalence of different survey methods and years of analysis. For example, 45 states (including Arizona) derive their youth smoking rate from a Youth Risk Behavioral Surveillance (YRBS). Florida, Minnesota and Wisconsin rely on a Youth Tobacco Surveillance (YTS) survey. Colorado produces its own state-specific survey. Oregon only surveys 11<sup>th</sup> grade students, and Washington 10<sup>th</sup> grade students. Table 10 lists the youth smoking rate by state for the most recent year available. Reading from the table, 10.1% of youths smoke in the State of Arizona.

<sup>21</sup> Center for Disease Control and Prevention, (2016). Smoking & Tobacco Use. *cdc.gov*. April 14, 2016. Available at: [http://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/youth\\_data/tobacco\\_use/](http://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/)

**Table 10: Incidence of Youth Smoking by State**

STATE	YOUTH SMOKING RATE	STATE	YOUTH SMOKING RATE
Alabama	14.0%	Montana	13.1%
Alaska	11.1%	Nebraska	13.3%
Arizona	10.1%	Nevada	7.5%
Arkansas	15.7%	New Hampshire	9.3%
California	7.7%	New Jersey	12.9%
Colorado	8.6%	New Mexico	11.4%
Connecticut	10.3%	New York	8.8%
DC	9.9%	North Carolina	13.1%
Delaware	12.5%	North Dakota	11.7%
Florida	6.9%	Ohio	15.1%
Georgia	12.8%	Oklahoma	13.1%
Hawaii	9.9%	Oregon	8.3%
Idaho	9.7%	Pennsylvania	12.9%
Illinois	10.1%	Rhode Island	4.8%
Indiana	11.2%	South Carolina	9.6%
Iowa	18.1%	South Dakota	10.1%
Kansas	10.2%	Tennessee	11.5%
Kentucky	16.9%	Texas	14.1%
Louisiana	12.1%	Utah	4.4%
Maine	11.2%	Vermont	10.8%
Maryland	8.7%	Virginia	8.2%
Massachusetts	7.7%	Washington	7.9%
Michigan	10.0%	West Virginia	18.8%
Minnesota	10.6%	Wisconsin	10.7%
Mississippi	15.2%	Wyoming	15.7%
Missouri	11.0%		

Source: *The Campaign for Tobacco-Free Kids*<sup>22</sup>

The national annual healthcare cost of smoking per smoker in the U.S. is \$4,067 (2016 \$).<sup>23</sup> However, this excludes out-of-pocket costs, future income losses, and other costs. For example, the CDC estimates that the U.S. economy additionally loses \$156 billion in lost productivity each year, on top of the \$170 billion direct medical care for adults.<sup>24</sup>

<sup>22</sup> The Campaign for Tobacco-Free Kids, (2016). *Key State-Specific Tobacco-Related Data & Rankings*, July 18, 2016. Available at: <https://www.tobaccofreekids.org/research/factsheets/pdf/0176.pdf>

<sup>23</sup> Campaign for Tobacco Free Kids, (2016). Toll of Tobacco in the United States. *tobaccofreekids.org*. July 19, 2016. Available at: [https://www.tobaccofreekids.org/facts\\_issues/toll\\_us/](https://www.tobaccofreekids.org/facts_issues/toll_us/)

<sup>24</sup> CDC, (2016). Current Cigarette Smoking Among U.S. Adults Aged 18 Years and Older. *cdc.gov*. May 20, 2016. Available at: <http://www.cdc.gov/tobacco/campaign/tips/resources/data/cigarette-smoking-in-united-states.html>

The Campaign for Tobacco-Free Kids reports that in 2014 there are approximately 896,000 smokers in the State of Arizona, including 37,200 high school students. The annual health care costs in Arizona directly caused by smoking in 2014 is \$2.38 billion. This is a conservative estimate as it does not include health costs caused by exposure to secondhand smoke, smoking-caused fires, smokeless tobacco use, or cigar and pipe smoking. It equates to \$2,700.13 per smoker (2016 \$).<sup>25</sup>

The **total** cost per **adult** smoker in Arizona is estimated at \$32,885 per year, or \$1,677,137 per lifetime (2016 \$).<sup>26</sup> This consists of out-of-pocket costs for the purchase of tobacco; a financial opportunity cost if a person instead invested the money spent on tobacco; a health-care cost; an income loss per smoker; higher credit charges applied to smokers purchasing insurance; and the costs for victims of second-hand exposure. The financial opportunity costs are based on a number of investment assumptions and appear quite high.

The Surgeon General notes that almost 90% of smokers start smoking before age 18.<sup>27</sup> Due to the addictive power of nicotine, approximately three out of every four teen smokers are estimated to continue smoking into adulthood.<sup>28</sup>

The 2014 Arizona Youth Survey (AYS) asks students if they have previously smoked tobacco during two time horizons: (a) the past 30 days; and (b) at any point in the past. Questions about smoking are also included in the NYOI survey completed by BGCMP Club members in spring 2016.

Table 11 compares the youth smoking findings of both surveys. This suggests that the rate of smoking in the past 30 days is 5.1 percentage points higher in Maricopa County compared to the BGCMP Club members NYOI 2016 survey. This equates to a smoking reduction of 51 children per 1,000 BGCMP Club members.

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<sup>25</sup> Campaign for Tobacco-Free Kids, (2016). *The Toll of Tobacco in Arizona*. Available at: [https://www.tobaccofreekids.org/facts\\_issues/toll\\_us/sources/](https://www.tobaccofreekids.org/facts_issues/toll_us/sources/)

<sup>26</sup> Bernado, Richie, (2016). The True Cost of Smoking by State. *WalletHub*. January 18, 2016. Available at: <https://wallethub.com/edu/the-financial-cost-of-smoking-by-state/9520/>

<sup>27</sup> U.S. Department of Health & Human Services, (2016). Preventing Tobacco Use Among Youth and Young Adults Fact Sheet. *SurgeonGeneral.gov*. Available at: <http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/factsheet.html>

<sup>28</sup> HHS, (2012). *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General*.

In 2014-2015, 2,353 Club Members are age 13 or older. Using the smoking data for the past 30 days, this suggests that an additional 120 BGCMP teenagers abstain from tobacco, compared to the Maricopa County average.

**Table 11: Comparison of Youth Smoking Survey Data**

	Yes - In Past 30 Days		Yes – Ever	
	AYS MARICOPA COUNTY	NYOI BGCMP	AYS MARICOPA COUNTY	NYOI BGCMP
Smoke Tobacco?	8.1%	3%	20.5%	12.7%

Sources: Arizona Youth Survey 2014 and National Youth Outcomes Initiative 2016

Applying the statewide lifetime cost per adult smoker (excluding the questionable financial opportunity cost) to 75% of the BGCMP teenagers that refrain from smoking based on the CDC’s youth-to-adult smoker conversion rate, this equates to a potential lifetime saving or benefit of \$43,975,440 (2016 \$).

**Table 12: Estimated Lifetime Saving of BGCMP Club Members’ Lower Propensity to Smoke Tobacco**

PERCENTAGE OF MARICOPA COUNTY YOUTHS SMOKING TOBACCO IN PAST 30 DAYS	PERCENTAGE OF BGCMP YOUTHS SMOKING TOBACCO IN PAST 30 DAYS	ESTIMATED NUMBER OF YOUTH SMOKERS AVOIDED	NUMBER OF YOUTH SMOKERS LIKELY TO BECOME ADULT SMOKERS	LIFETIME COST PER SMOKER IN ARIZONA (2016 \$) <sup>29</sup>	TOTAL ESTIMATED LIFETIME SAVINGS FROM SMOKING REDUCTION (2016 \$)
8.1%	3.0%	120	75%	\$488,616	\$43,975,440

Source: Authors’ Calculations

### 3.5 Other Forms of Substance Abuse

In 2013, an estimated 24.6 million Americans ages 12 or older (9.4% of the population) claim to have used an illicit drug in the past month.<sup>30</sup>

<sup>29</sup> Note: this excludes the financial opportunity cost, and is therefore a conservative and more defensible total life time cost.

<sup>30</sup> National Institute on Drug Abuse (2015). *Drug Facts: Nationwide Trends*. June 2015. Available at: <https://www.drugabuse.gov/publications/drugfacts/nationwide-trends>



There are a wide range of costs associated with illicit drug use. For example, the U.S. Department of Justice identifies three categories of cost.<sup>31</sup> These are:

- Crime costs, encompassing the criminal justice system, crime victims, and other crime costs.
- Health costs, consisting of specialty treatment, hospital and emergency costs for homicide and non-homicide cases, insurance administration, and other health costs.
- Productivity costs, encompassing labor participation, federal and state level specialty treatment services, hospitalization, incarceration, and premature mortality.

The U.S. Department of Justice estimates that illicit drug use as a whole in 2007 cost American society \$193 billion (2007 \$). This cost is for the entire population of users – that is, for adults and youths.

Table 13 compares survey findings for youth consumption of one type of illicit drug – marijuana. This suggests that the rate of marijuana use in the past 30 days is 5.3 percentage points higher in Maricopa County compared to the NYOI 2016 survey. This equates to a marijuana reduction of 53 children per 1,000 BGCMP Club members.

There are 2,353 Club members age 13 or older in 2014-2015. Using the marijuana consumption data for the past 30 days, this suggests that an additional 125 BGCMP teenagers abstain from marijuana usage, compared to the Maricopa County average.

**Table 13: Comparison of Marijuana Use Survey Data**

	Yes - In Past 30 Days		Yes – Ever	
	AYS MARICOPA COUNTY	NYOI BGCMP	AYS MARICOPA COUNTY	NYOI BGCMP
Marijuana User?	13.3%	8%	25.7%	15.2%

Sources: Arizona Youth Survey 2014 and National Youth Outcomes Initiative 2016

Focusing exclusively on the outpatient healthcare cost of \$4,318 (2007 \$), adjusted to a 2016 estimate of \$5,011.59 using the BLS CPI inflation calculator, Table 14 estimates a conservative annual cost saving of \$626,500 (2016 \$). This excludes any criminal costs to avoid double-counting with the monetization of

<sup>31</sup> U.S. Department of Justice National Drug Intelligence Center, (2011). *The Economic Impact of Illicit Drug Use on American Society*, April 2011.

juvenile crime savings in the current study. It also excludes any loss of productivity, for example, in school, through disability, or even premature death. The true cost saving associated with a reduction in the number of marijuana users is therefore almost certainly higher.

**Table 14: Estimated Annual Health (Outpatient) Saving Associated with Lower Marijuana Usage**

PERCENTAGE OF MARICOPA COUNTY YOUTHS USING MARIJUANA IN PAST 30 DAYS	PERCENTAGE OF BGCMP YOUTHS USING MARIJUANA IN PAST 30 DAYS	ESTIMATED NUMBER OF MARIJUANA USERS AVOIDED	NATIONAL OUTPATIENT COST SAVING PER USER (2016 \$) <sup>32</sup>	TOTAL ESTIMATED ANNUAL OUTPATIENT COST SAVING (2016 \$)
13.3%	8.0%	125	\$5,011.59	\$626,448.75

Source: Authors' Calculations

### 3.6 Reductions in Juvenile Crime

During the past two decades, there has been a significant decline in juvenile crime and arrests. For example, total juvenile court cases declined 37% between 2004 and 2013, and the national number of delinquency cases per 1,000 juveniles declined 44% between 1997 and 2013.

The Arizona Department of Public Safety's annual report, *Crime in Arizona*, states that arrests of young people declined 54% between 2004 and 2014, and the rate of arrests halved to 32 per 1,000 youths.<sup>33</sup>

Figure 2 illustrates the number of juveniles referred and petitioned, 2010-2014. Referrals are made to a court; county attorneys make petitions. A juvenile can receive multiple referrals or petitions. The total number of referrals (shown by a blue star) in FY 2014 is 39,578. The total number of petitions (shown by a red star) in FY 2014 is 15,193.

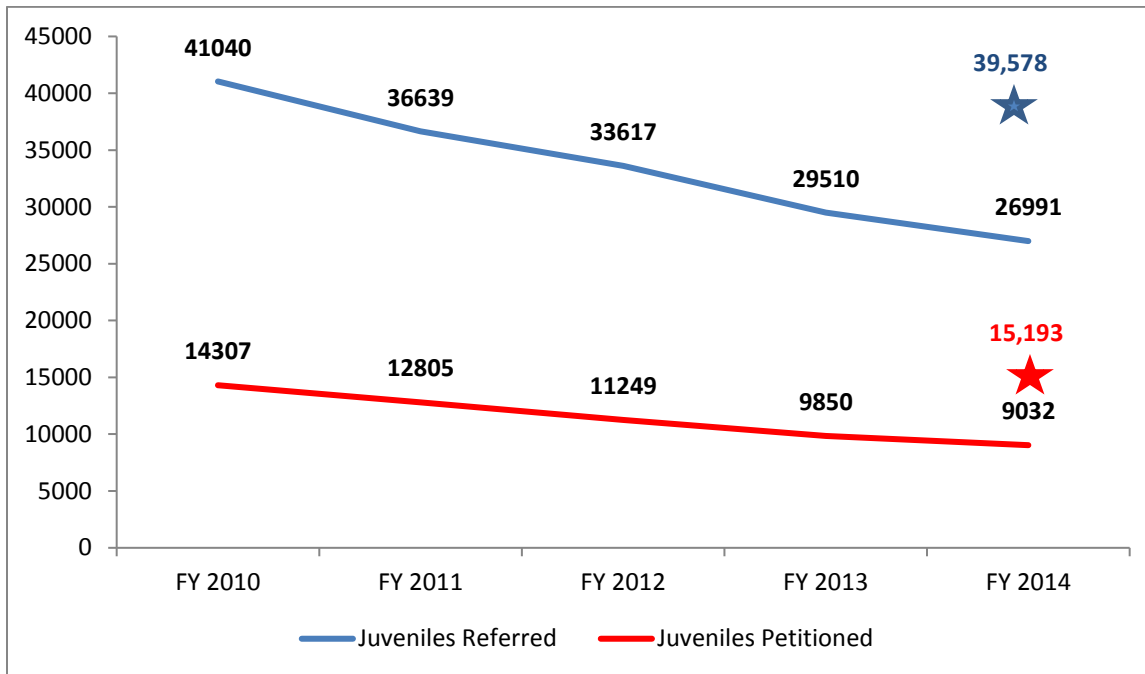
This declining trend continues statewide in FY 2015: 37,331 referrals involving 26,488 juveniles. Approximately one sixth of the referrals are for truancy, curfew, or "beyond the control of parents" offences. 43.6% of the remaining delinquency referrals are for offenses against property or violations of the peace.<sup>34</sup>

<sup>32</sup> Note: this excludes the financial opportunity cost, and is therefore a conservative and more defensible total life time cost.

<sup>33</sup> Hart, Bill, (2016). Juvenile Justice in Arizona: The Fiscal Foundations of Effective Policy. *Children's Action Alliance and ASU Morrison Institute for Public Policy*. January 2016.

<sup>34</sup> Arizona Supreme Court, (2016). 2015 Data Report – Juvenile Court/Probation Narrative Summary Section. *azcourts.gov*. Available at: <https://www.azcourts.gov/Portals/39/2015DR/JuvenileCourt.pdf>

**Figure 2: Juveniles Referred and Petitioned in the State of Arizona, FY 2010 – FY 2014**



Source: Supreme Court of Arizona<sup>35</sup>

The Juvenile Court has exclusive jurisdiction over youths age 17 or younger in three specific areas in Maricopa County. These are:

- Delinquency matters when youths are charged with violations of state or municipal law;
- Dependency matters when a child is abused or neglected by a parent or caregiver; and
- Guardianship or adoption matters.

13,357 juveniles feature in 17,126 referral filings in Maricopa County in FY 2015 for the offenses listed in Table 15.

<sup>35</sup> Supreme Court of Arizona. *Arizona's Juvenile Court Counts FY 2014*. Available at: <https://www.azcourts.gov/Portals/29/JJSD%20Publication%20Reports/Juveniles%20Processed/AZJuvCourtCountsFY14.pdf>

**Table 15: Distribution of Offences for Juvenile Referrals Filed in Maricopa County, FY 2015**

OFFENCE	NUMBER OF CASES	PERCENTAGE
Violent Felony against a Person	983	5.7%
Grand Theft (Felony against Property)	1,243	7.3%
Obstruction (Hindering Justice)	1,470	8.6%
Fight (Misdemeanors against Person)	1,609	9.4%
Drug Offence	2,109	12.3%
Disturbing the Public Peace	4,030	23.5%
Theft (Misdemeanor against Property)	3,154	18.4%
Incorrigible (Truancy; Curfew Breaking)	2,446	14.3%
Citations	82	0.5%

Source: Arizona Supreme Court<sup>36</sup>

Approximately 70.1% of the most serious juvenile crimes in Maricopa County in FY 2015 lead to an admission or finding of guilt.<sup>37</sup>

The total cost of Juvenile Court Probation and Detention in Maricopa County in FY 2015 is \$69,718,177.<sup>38</sup> This equates to \$4,071 per referral. This is exclusively a criminal justice system cost. However, there are also other costs associated with crime. For example, McCollister, French and Fang (2010) estimate a series of tangible and intangible costs for various crime offenses, based on a review of crime-costing literature and government reports.<sup>39</sup> The tangible costs include victim costs and crime career costs, in addition to the criminal justice system costs. Intangible costs include an allowance for pain and suffering, and other societal costs. McCollister et. al.'s total costs (estimated in 2008 \$) are illustrated in Table 16. Unfortunately, their list of offenses does not correlate closely with the FY 2015 juvenile crimes listed by the Arizona Supreme Court.

Nevertheless, given the Office of Juvenile Justice and Delinquency Prevention's (OJJDP) assertion that juvenile crime spikes dramatically between 3pm and 7pm during school semesters,<sup>40</sup> it is pertinent to attempt to quantify the impact of BGCMP on juvenile crime in metro Phoenix.

<sup>36</sup> Ibid.

<sup>37</sup> Ibid.

<sup>38</sup> Supreme Court of Arizona, (2015). Court Expenditures – Appellate and Superior Courts Narrative Summary. *azcourts.gov*. Available at: <https://www.azcourts.gov/Portals/39/2015DR/GJExpenditure.pdf>

<sup>39</sup> McCollister, K. E., French, M. T., & Fang, H., (2010). The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation. *Drug and Alcohol Dependence*, Vol. 108 (1-2), pages 98–109.

<sup>40</sup> Office of Juvenile Justice and Delinquency Prevention, (2014). *Statistical Briefing Book*. Online. May 22, 2014. Available at <http://www.ojjdp.gov/ojstatbb/offenders/qa03301.asp?qaDate=2010>

**Table 16: National Tangible and Intangible Costs of Crime (2008 \$)**

OFFENSE	TANGIBLE			INTANGIBLE	TOTAL COST
	Criminal Justice System Cost	Crime Victim Cost	Crime Career Cost	Societal Costs	
Murder	\$392,352	\$737,517	\$148,555	\$8,442,000	\$8,982,907
Rape/Sexual Assault	\$26,479	\$5,556	\$9,212	\$199,642	\$240,776
Aggravated Assault	\$8,641	\$8,700	\$2,126	\$95,023	\$107,020
Robbery	\$13,827	\$3,299	\$4,272	\$22,575	\$42,310
Motor Vehicle Theft	\$3,867	\$6,114	\$553	\$262	\$10,772
Arson	\$4,392	\$11,452	\$584	\$5,133	\$21,103
Household Burglary	\$4,127	\$1,362	\$681	\$321	\$6,462
Larceny/Theft	\$2,879	\$480	\$163	\$10	\$3,532
Stolen Property	\$6,842	N/A	\$1,132	N/A	\$7,974
Vandalism	\$4,160	N/A	\$701	N/A	\$4,860
Forgery and Counterfeiting	\$4,605	N/A	\$660	N/A	\$5,265
Embezzlement	\$4,820	N/A	\$660	N/A	\$5,480
Fraud	\$4,372	N/A	\$660	N/A	\$5,032

Source: McCollister, French, and Fang (2010)

Drawing from the BGCMP parent and caregivers' survey, 17 out of 680 respondents with Club members in 3<sup>rd</sup> Grade or above indicate that their child has been arrested in the past year. This equates to a rate of 25 arrests per 1,000 BGCMP Club members age 8 or older, compared to a statewide average of 32 arrests per 1,000 juveniles.

There are 7,439 Club members ages 8 to 18 attending BGCMP in 2014-2015. Comparing both arrest rates, this suggests that the total number of arrests in BGCMP in the past year is 52 juveniles less than the Maricopa County rate estimates, all other things being equal. This equates to a total annual court savings cost of \$215,231 (2016 \$).

Excluding the murder and rape/sexual assault crimes, which do not appear to be included in the list of Maricopa County referrals in FY 2015, the average tangible and intangible total crime cost estimated from the literature by McCollister et. al is \$15,981.18 per crime. This latter monetization also excludes the criminal system justice cost component, to enable separate inclusion of the Maricopa County-specific cost of \$4,071 per referral in FY 2015.

**Table 17: Estimated Lifetime Saving of BGCMP Club Members’ Lower Arrest Rate**

PERCENTAGE OF MARICOPA COUNTY JUVENILES ARRESTED IN PAST YEAR	PERCENTAGE OF BGCMP JUVENILES ARRESTED IN PAST YEAR	ESTIMATED NUMBER OF JUVENILE ARRESTS AVOIDED	JUVENILE PROBATION/ DETENTION COURT COSTS PER MARICOPA COUNTY REFERRAL (2016 \$) <sup>41</sup>	AVERAGE NATIONAL OTHER TANGIBLE & INTANGIBLE CRIME COSTS (2016 \$) <sup>42</sup>	TOTAL ESTIMATED ANNUAL SAVINGS FROM JUVENILE ARREST REDUCTION (2016 \$)
3.2%	2.5%	52	\$4,133.25	\$15,981.18	\$800,984.39

Source: Authors’ Calculations

Assuming that 70.1% of the avoided arrests would be found guilty by the Maricopa County Juvenile Court, the total estimated juvenile crime reduction saving for 2014-2015 BGCMP Club members is \$801,000.

### 3.7 Physical Activity & Obesity Benefits

The CDC estimates that more than a third (36.5%) of U.S. adults have obesity.<sup>43</sup> This includes a self-reported rate of 28.4% of adults living in the State of Arizona.<sup>44</sup> That’s the 34th highest adult obesity rate in the nation.<sup>45</sup> The most recent data available for Arizona’s youths, reported in *The State of Obesity* (2016), states that:

- 14.9% of low-income family children ages 2 to 4 in the State of Arizona are obese (WIC PC 2012).<sup>46</sup>
- 19.8% of children ages 10 to 17 in the State of Arizona are obese (NSCH 2011).<sup>47</sup>
- 10.7% of high school children in the State of Arizona are obese (NSCH 2011).
- 12.7% of high school children in the State of Arizona are overweight (NSCH 2011).

<sup>41</sup> For the purpose of this calculation, this cost is applied to every juvenile referral in Maricopa County in FY 2015.

<sup>42</sup> For the purpose of this calculation, this cost is applied to 70.1% of the avoided arrests at BGCMP.

<sup>43</sup> Centers for Disease Control and Prevention, (2016). Adult Obesity Facts. *cdc.gov*. September 1, 2016. Available at: <https://www.cdc.gov/obesity/data/adult.html>

<sup>44</sup> Centers for Disease Control and Prevention, (2016). Adult Obesity Prevalence Maps. *cdc.gov*. September 1, 2016. Available at: <https://www.cdc.gov/obesity/data/prevalence-maps.html>

<sup>45</sup> Trust for America’s Health, and the Robert Wood Johnson Foundation, (2016). *The State of Obesity: Better Policies for a Healthier America*. Available at: <http://stateofobesity.org/files/stateofobesity2016.pdf>

<sup>46</sup> United States Department of Agriculture, (2012). *Women, Infants, and Children Participant and Program Characteristics*. Available at: <http://www.fns.usda.gov/women-infants-and-children-wic-participant-and-program-characteristics-2012>

<sup>47</sup> Data Resource Center for Child & Adolescent Health, (2011). *National Survey of Children’s Health, 2011*. Available at: <http://childhealthdata.org/learn/NSCH>

*The State of Obesity* (2016) also estimates that obese adults spend 42% more on direct healthcare costs, compared to a healthy-weight adult.

The CDC estimates the annual medical care costs of obesity nationwide at \$147 billion, and the annual loss in productivity due to obesity-related absenteeism at \$3.38 to \$6.38 billion (all 2008 \$).<sup>48</sup>

Focusing on physical activity, the NSCH data suggests that only 26.4% of children ages 6 to 17 participate in vigorous physical activity on a daily basis in the State of Arizona in 2011; and 21.7% of high school students are physically active for at least 60 minutes on all 7 days.<sup>49</sup>

The causes of obesity include unhealthy diets and lack of physical exercise, both of which are addressed in part by BGCMP. For example, drawing from the 2016 NYOI survey:

- 94% of BGCMP Club members engage in some form of physical activity.
- 64% of BGCMP Club members claim to participate in physical activity for 5+ days at recommended levels.
- 40% of BGCMP Club members claim to eat three or more vegetables each day.
- 69% of BGCMP Club members claim to eat two or more fruits each day.

Furthermore, drawing from Seidman's BGCMP parent/caregiver survey:

- 79% agree or strongly agree that their children now show more interest in exercise.
- 54% agree or strongly agree that their children now make healthier food and drink choices.

Anecdotal comments from parents and caregivers at two BGCMP focus groups support the Clubs' promotion of physical activity and healthy eating or drinking:

*"Sports is very important. They have a lot of sports here."*

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<sup>48</sup> CDC, (2016). Adult Obesity Causes & Consequences. *cdc.gov*. August 15, 2016. Available at: <https://www.cdc.gov/obesity/adult/causes.html>

<sup>49</sup> Trust for America's Health, and the Robert Wood Johnson Foundation, (2016). *The State of Obesity: Better Policies for a Healthier America*. Available at: <http://stateofobesity.org/files/stateofobesity2016.pdf>



“There’s different groups for different age ranges. My boy has just finished the 9 thru 12 basketball....and there’s a teen one they can join from age 13. And there’s different grade ranges. You pay a small additional fee, but compared to what you’d pay for sports elsewhere, it’s nothing. It’s like \$25 maybe for them to play the season, and you compare that to club ball. I mean someone tried to scout him, and I said I’m not able to pay that kind of money. They wanted to spend like \$250 up front, then \$125 a month and that’s not including travelling. So I said no, it’s not going to happen sorry.”

*“[Food at the Club] ...always seems to be healthy stuff. There have been times when I have come to pick them up and they have the trays with like the apples, fruit, and vegetables on.”*

“My kid, when he’s home, he wants to eat apples like the ones they have here.”

“My kids are drinking more water than they used to. Because they don’t have no juice, no soda here. And they now want water.”

However, it is very difficult to monetize the impact of these behavioral changes using the data collected as part of the current study. Consistent with the 2011 Damooei study, the monetization of physical activity and healthy eating/drinking benefits are therefore excluded from the current return on investment estimate for BGCMP. Nevertheless, there are clear economic and social benefits associated with BGCMP’s physical activity and healthy eating programs and services; and Seidman recommends that greater attention be devoted to these benefits in any future return on investment impact studies.

## 4.0 BENEFITS OF BOYS & GIRLS CLUBS FOR PARENTS/GUARDIANS OF MEMBERS

### 4.1 Enabling Parents to Continue to Work

The previous Section analyzed a number of benefits for BGCMP Club Members. The 2011 Damooei study concluded that the parents or caregivers of Club Members also benefit from their children's attendance at Boys & Girls Clubs. The monetary value of this potential benefit is therefore re-evaluated as part of the current study.

A typical working day for a parent rarely corresponds exactly with their child's school day. Child Care Resource & Referral (CCRR) estimates the average (median) weekly cost of child care for school age children in the State of Arizona in 2014 at \$75 for approved homes, rising to \$159 for child care centers (2014 \$).<sup>50</sup> This is based on a 2014 DES Market Rate Survey.

After-school child care can be an expensive prospect for working moms and dads, particularly those from low-income families. The challenge many parents face is very simple. Parents and caregivers need a safe, secure, and supervised place for their children to attend after school while they are working, but the weekly cost can in many cases make the financial viability of work unsustainable. BGCMP is an affordable solution to this problem, illustrated by the following comments from a focus group of current parents moderated by Seidman in spring 2016:

*"I did the math for my two little ones (my teenage son is 14). I did the math between a babysitter and the Boys & Girls Club, and the Club is a lot cheaper. It's way cheaper, and they do activities. They take them somewhere else. I love it, and my kids love it too."*

"The Boys & Girls Club is so much cheaper, especially when you have multiple kids."

*"There are day care centers, but they are not economically sound."*

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<sup>50</sup> Child Care Resource & Referral, (2015). *Child Care Costs*. Available at: <http://arizonachildcare.org/families/childcare-costs.html>

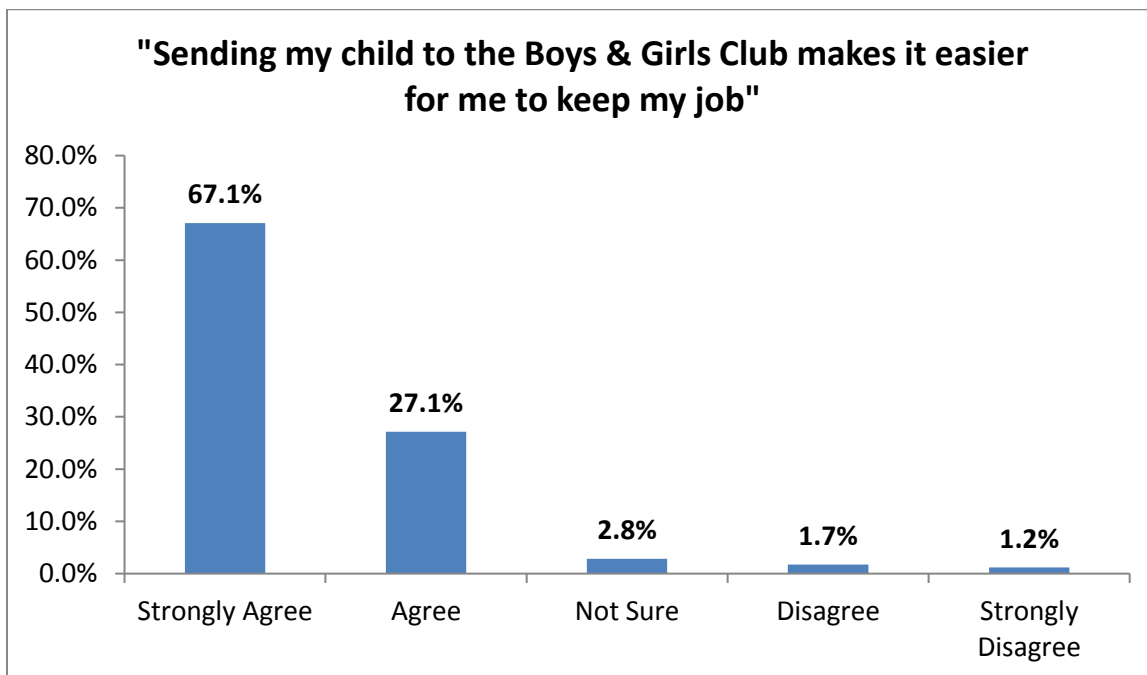
“Day care center hours are not really sufficient for what you need, either, most of the time. They’re costly for low income.”

*“For my kids’ age, I could tell them to walk home or take the bus from school, but I don’t want a latch key kid that’s running around the neighborhood when I’m not there. This (Boys & Girls Club) is safer and cost-effective.”*

BGCMP’s 10,328 Club Members in 2014-2015 are drawn from 6,760 households throughout metro Phoenix. An estimated 91.6% or 6,192 of these households contain a full-time or part-time working adult, based on the parent/caregiver survey issued by Seidman and completed by 15.4% of Club Member households.

The weighted average income of BGCMP working households is \$30,366 in 2016, demonstrating the low levels of income prevalent among Club Member families; and 60.6% of parents indicate that the cost of child care is a major challenge.

**Figure 3: Impact of BGCMP Attendance on Parent/Caregiver’s Ability to Continue Working**



Source: Seidman’s BGCMP Parent/Caregiver Survey

Over two thirds of the working households participating in Seidman’s survey strongly agree with the statement that “Sending my child to the Boys & Girls Club makes it easier for me to keep my job.” That’s equivalent to 4,155 Club Member households in 2014-2015. A further fourth of respondents agree with the statement. Only 3% of survey respondents disagree or strongly disagree with the statement.

Focusing exclusively on the households that strongly agree with the statement, the availability of a Boys & Girls Club in 2014-2015 is therefore estimated to enable at least 4,155 households to continue to work. Based on a \$30,366 weighted average income per BGCMP working household, the total benefit for the State of Arizona economy in 2014-2015 is estimated at \$126,170,730 (2016 \$).

**Table 18: Estimated Annual Benefit of BGCMP Enabling Parents/Caregivers to Continue to Work**

ESTIMATED NUMBER OF WORKING HOUSEHOLDS	AVERAGE HOUSEHOLD INCOME FOR WORKING HOUSEHOLDS	PERCENTAGE OF WORKING HOUSEHOLDS STRONGLY AGREEING WITH STATEMENT	NUMBER OF 2014-2015 CLUB MEMBER HOUSEHOLDS	TOTAL ESTIMATED ANNUALS BENEFIT OF WORKING PARENTS (2016 \$)
6,192	\$30,366	67.1%	4,155	\$126,170,730

*Source: Authors' Calculations*

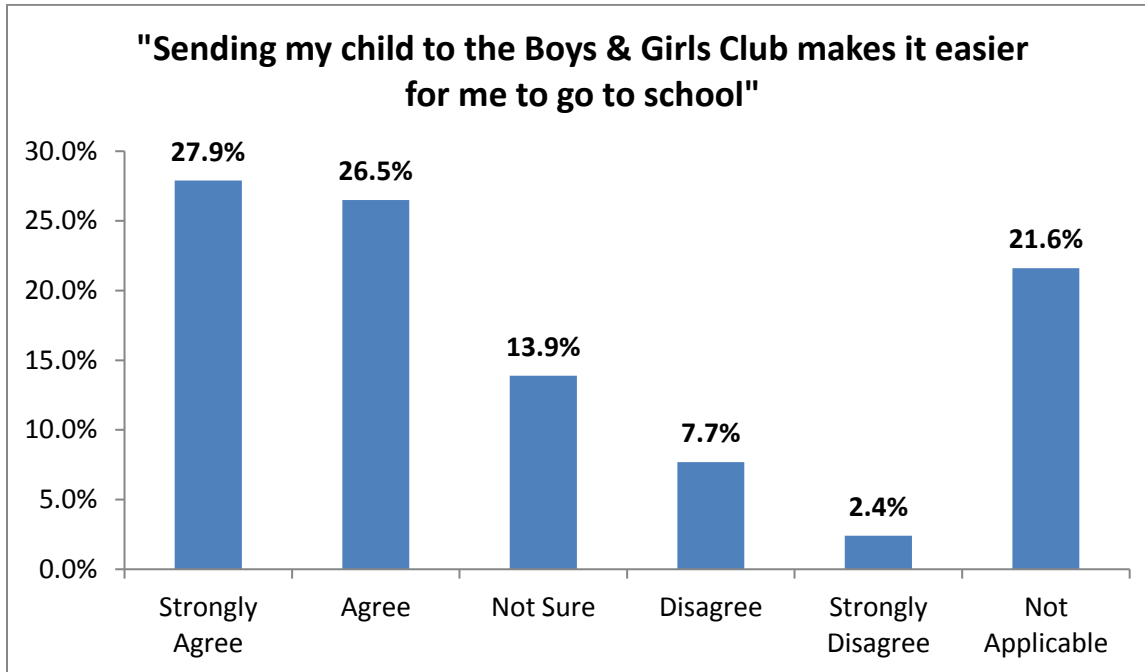
In short, the safe, supervised, and affordable after-school environment in BGCMP enables parents to continue to be productive members of the local economy. Every time a parent is able to keep their job as a result of BGCMP, an additional \$30,366 in income on average is generated in the community. This, in turn, could reduce the burden of social programs on taxpayers, and potentially improve the quality of life for families.

## 4.2 Enabling Parents to Continue to Study

Seidman’s survey also examines the extent to which a child’s attendance at BGCMP enables their parent or caregiver to continue their education.

Over half of the survey respondents strongly agree or agree with the statement that “Sending my child to the Boys & Girls Club makes it easier for me to go to school.” However, the level of schooling is not identified, making it difficult to include this benefit within the current return on investment calculation.

**Figure 4: Impact of BGCMP Attendance on Parent/Caregiver's Ability to Continue Studying**



*Source: Seidman's BGCMP Parent/Caregiver Survey*

Focusing exclusively on the households that strongly agree with the statement, the availability of a Boys & Girls Club in 2014-2015 is estimated to enable at least 1,866 adults to continue their education. One of the potential benefits of educational attainment is economic success through access to higher earnings. Table 19 illustrates median earnings in Maricopa County by sex and by educational attainment.

The survey does not investigate the reasons why parents or caregivers are continuing with their studies, the level at which they are studying, or the distribution of students by gender. As a result, it is impossible to objectively estimate the monetary value of the educational benefit. Suffice to say, based on the assumption that an adult in every one of the 1,866 households is continuing to study to at least become a high school graduate or equivalent, the single year higher earnings potential of this could be as high as \$15,337,254 (2016 \$).

**Table 19: Median Earnings by Sex and Educational Attainment in Maricopa County for Ages 25+**

	ESTIMATED MEDIAN INCOME (2014 \$)	2016 \$ EQUIVALENT
Less than high school graduate	\$20,167	\$20,500
<i>Males</i>	\$22,167	\$22,533
<i>Females</i>	\$16,200	\$16,468
High school graduate (includes equivalency)	\$28,167	\$28,632
<i>Males</i>	\$31,340	\$31,858
<i>Females</i>	\$25,065	\$25,479
Some college or associate's degree	\$35,835	\$36,427
<i>Males</i>	\$41,820	\$42,511
<i>Females</i>	\$31,324	\$31,841
Bachelor's degree	\$51,337	\$52,185
<i>Males</i>	\$61,953	\$62,977
<i>Females</i>	\$42,171	\$42,868
Graduate or professional degree	\$65,835	\$66,923
<i>Males</i>	\$82,864	\$84,233
<i>Females</i>	\$53,626	\$54,512

Source: American Community Survey<sup>51</sup>

<sup>51</sup> Source: American Community Survey 2010-2015 Five Year Estimates Table B20004

## **5.0 ECONOMIC IMPACT OF THE 13 BOYS & GIRLS CLUBS OF METRO PHOENIX**

### **5.1 Methodology & Data Inputs**

Economic impact analysis traces the full impact - direct, indirect and induced - of an economic activity on jobs and incomes in a local economy.

For example, a Boys & Girls Club in metro Phoenix directly affects the local economy through the jobs provided to operational staff, and its capital expenditure investments. Indirect effects arise when suppliers hire staff to fulfil the Club's purchasing needs, or place upstream demands on their own suppliers. Induced effects occur when workers either directly or indirectly associated with the Club spend their incomes in the local economy, and when governments spend new tax revenues.

The impact of a Boys & Girls Club on the local economy is therefore far greater than its total direct spending on payroll, supplier purchases, and program/service delivery costs. A chain reaction of indirect and induced spending continues, with subsequent rounds of additional spending gradually diminished through savings, taxes, and expenditures made outside the geography of study. Economists often refer to these secondary effects as multiplier or ripple effects.

Consistent with the 2011 study, an IMPLAN economic model is used by Seidman to estimate the economic impact of BGCMP in the State of Arizona. IMPLAN is a commercially-licensed input-output model developed and maintained by the Minnesota IMPLAN Group, Inc. (MIG). An input-output model is a system of linear equations describing the inter-industry relationships in an economy.

The IMPLAN model organizes the economy into 440 separate industries, and has comprehensive data on every area of the United States. It is widely used for economic assessments and can provide detailed estimates of secondary expenditures and income generated as a result of a business investment or operation for a finite period of time (typically one full calendar or fiscal year).

In addition to providing estimates of multiplier effects, IMPLAN has a detailed database of the modeled economy which makes it possible to estimate the direct jobs and incomes associated with any given dollar amount of supplier purchases.

The measures of economic impact estimated as part of the current study are:

- **Gross State Product (GSP):** This is synonymous with total valued added. GSP represents the dollar value of all goods and services produced for final demand in the modeled economy. National level GSP is referred to as Gross Domestic Product (GDP). GSP can also be defined as the sum of employment compensation, proprietor income, property income, and indirect business taxes.
- **Employment:** This is the number of full-time and part-time employees needed to support the economic activity. It is a head count, rather than full-time positions, and is based on the average output per employee for a given industry.
- **Labor income:** This is the sum of proprietor (self-employed) income and the total compensation of payroll employees, consisting of wages or salaries and benefits.

Primary data provided by BGCMP includes company employment and total payroll costs; a complete record of payments to suppliers associated with services and parts or maintenance activities by procurement category; capital expenditure investments; and state and local tax payments. Data is supplied for the 2014-2015 school year. Summaries of data inputs are illustrated in Tables 20 and 21.

**Table 20: Boys & Girls Clubs of Metro Phoenix Employment Profile, 2014-2015**

EMPLOYMENT TYPE	VALUE
Full-Time Employees	80
Part-Time Employees (Year-Round)	117
Part-Time Employees (Summer)	39
Part-Time Hours (Total)	181,000
FTE Employees of PT Employees Hours Worked	60.6
Volunteers	823
Volunteer Hours Worked	12,368
FTE of Volunteer Hours Worked	6

Source: Client



**Table 21: Boys & Girls Clubs of Metro Phoenix Total Expenditure, 2014-2015<sup>52</sup>**

	<b>EXPENDITURE (2015 \$)</b>
<b>OPERATIONS</b>	
Employee Salaries	\$5,124,361
Employee Benefits	\$513,698
Payroll Taxes	\$421,484
Occupancy (Water, HVAC, Utilities)	\$654,923
Hiring & Training	\$33,198
Contracted Services	\$435,943
Food Supplies	\$1,318,386
Telephone	\$67,225
Postage	\$10,955
Equipment & Equipment Maintenance	\$173,749
Printing/Public Relations	\$43,020
Transportation	\$79,716
Conference & Meetings	\$69,705
Insurance	\$152,476
Fundraising	\$21,351
Youth Related	\$144,881
Miscellaneous	\$127,737
<b>CAPITAL EXPENDITURE</b>	
Buildings	\$195,769
Building Maintenance and Repair	\$726,855
Equipment	\$755,798
Other Repairs	\$3,174
<b>TOTAL</b>	<b>\$11,074,407</b>

Source: Client

## 5.2 Results

Table 22 estimates the total economic impact of the BGCMP's operations, supplier expenditure, and capital expenditure in the State of Arizona for one full year. All estimated economic impacts are expressed in 2016 dollars (2016 \$).

<sup>52</sup> Numbers may not tally exactly due to rounding-up.

The first three rows of Table 22 estimate the direct contribution of BGCMP to employment, labor income, and gross state product (GSP) in the State of Arizona in the year of study. Three types of direct effects are listed: construction (CAPEX); operations; and supplier purchases. The total direct effects are estimated at 170.6 jobs, \$6.9 million labor income, and \$7.5million GSP (both 2016 \$).

**Table 22: Economic Impact of BGCMP in the State of Arizona, 2014-2015**

ECONOMIC IMPACTS	EMPLOYMENT (JOBS) <sup>53</sup>	LABOR INCOME (2016 \$)	GSP (2016 \$)
<b>DIRECT EFFECTS</b>			
Construction (CAPEX)	10	\$491,166	\$731,241
Operations	140.6	\$5,724,408	\$5,724,408
Supplier Purchases	20	\$718,633	\$1,046,185
<b>INDIRECT &amp; INDUCED EFFECTS</b>			
Construction (CAPEX)	11	\$490,943	\$830,285
Employee Consumer Spending	40	\$1,835,267	\$3,163,377
Supplier Purchases	10	\$495,244	\$851,633
Spending of State and Local Tax Revenues	12	\$675,940	\$885,716
<b>TOTAL ECONOMIC IMPACT</b>	<b>243.6</b>	<b>\$10,431,602</b>	<b>\$13,232,844</b>

Source: Authors' calculations

A further four rows in Table 22 estimate the indirect and induced effects generated in the State of Arizona economy through BGCMP's construction (CAPEX), employee expenditures, supplier purchases, and the spending of state and local tax revenues. The total indirect and induced (or ripple) effects in the year of study are estimated at 73 jobs, \$3.5 million labor income, and \$5.7 million GSP (both 2016 \$).

The total impact of BGCMP on the State of Arizona economy for a single year is therefore estimated at 243.6 jobs, \$10.4 million labor income, and \$13.2 million GSP (both 2016 \$). This is based on BGCMP's total "paid-for" operations and capital expenditure in the year of study.

Consistent with other nonprofits, BGCMP also benefits from the support of volunteers to deliver its programs and services. In 2014-2015, 823 volunteers offered 12,368 hours of in-kind support to the 13 BGCMP Clubs. Based on a standard 40-hour week, this is equivalent to a cost-saving of 6 full-time

<sup>53</sup> Columns may not tally exactly due to rounding-up.

employees shared across the 13 Clubs. There are no direct labor income or employment impacts associated with these volunteers as they are unpaid labor. The indirect and induced impacts of their in-kind support at the Clubs are equivalent to an additional 12 jobs for one year, \$527,730 labor income, and \$831,475 GSP (both 2016 \$).

The total impact of BGCMP on the State of Arizona economy in 2014-2015, encompassing “paid-for” operations, capital expenditure, and the in-kind support of volunteer workers, is therefore estimated at 255.6 jobs, \$11 million labor income, and \$14.1 million GSP (both 2016 \$).

This suggests that GSP in the State of Arizona in 2014-2015 receives over \$1.27 for every \$1 spent by BGCMP.

## 6.0 TOTAL RETURN ON INVESTMENT

The purpose of the current study has been to update Damooei's 2011 quantification of return on investment, and estimate a series of impacts or benefits specifically for BGCMP in 2014-2015. In particular, the study has attempted to monetize the following benefits for Club members, their parents/caregivers, and the wider Maricopa County community as a whole:

- Improved rates of high school graduation;
- Reduced levels of teenage pregnancy and motherhood;
- Reduced levels of underage drinking;
- A lower propensity to smoke/consume tobacco;
- Reduced levels of marijuana use;
- A decline in juvenile criminal activity;
- An enhanced opportunity for parents to continue working; and
- The total economic impact (direct, indirect, and induced) of BGCMP operations and volunteers for the Maricopa County economy.

In 2014-2015, BGCMP spent \$11,074,407 at 13 Clubs throughout the metro Phoenix area. This includes \$9,392,810 expenditure to operate the 13 Clubs and the Dental Clinic; and \$1,681,597 capital expenditures.<sup>54</sup> BGCMP's top 3 operational expenditure categories are:

- |   |       |
|---|-------|
| • Employee wages and salaries, benefits and payroll taxes | 64.5% |
| • Food supplies   | 14.0% |
| • Occupancy fees (e.g. water, utilities, HVAC)            | 7%    |

In 2014-2015, 80 people work on a full-time basis at the 13 Clubs and the local Program Services Center, supported by 117 part-time employees year-round, and a further 39 part-time employees during the summer at the Clubs. 823 volunteers also freely gave a total of 12,368 hours to BGCMP to help the

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<sup>54</sup> Source: Client communication. The values here are expressed in 2015 \$.

nonprofit provide affordable after-school care in a safe, secure and friendly environment to 10,328 Club members from 6,760 households.

Table 23 summarizes the monetary benefits or impact of BGCMP for Maricopa County. Reading from the table, Seidman estimates that Maricopa County receives \$18.22 of benefits for every \$1 invested in the BGCMP.

**Table 23: Estimating the Return on Investment or Impact of BGCMP in Maricopa County**

BENEFIT TYPE	MONETARY VALUE (2016 \$)
Higher Graduation Rates and Lifetime Earnings	\$11,059,738
Lower Teen Pregnancy and Motherhood Rates	\$5,223,775
Lower Underage Drinking Savings	\$2,975,576
Lifetime Non-Smoker Savings	\$43,975,440
Lifetime Lower Marijuana Usage Savings	\$626,449
Juvenile Crime Savings	\$800,984
Annual Working Parent Benefit	\$126,170,730
Annual Economic Impact of BGCMP Operations, Capital Expenditure, & Volunteers	\$14,064,039
<b>TOTAL VALUE OF BENEFITS</b>	<b>\$204,897,011</b>
<b>TOTAL 2014-2015 COSTS</b>	<b>\$11,244,016</b>
<b>ESTIMATED RETURN ON INVESTMENT</b>	<b>\$1:\$18.22</b>

*Source: Authors' calculations*

Considering each of the benefits in turn, Seidman estimates that in 2014-2015, 34 additional 17 and 18 year olds graduated from high school, compared to the cumulative rate of graduation for the school districts served by BGCMP. Based on an estimated 40 years' lifetime earnings,<sup>55</sup> this could amount to a cumulative high school graduation work-life earnings benefit of at least \$11,059,738.

Seidman also estimates that in 2014-2015, 37 Club members avoided becoming a mom, compared to the Maricopa County rate of 17.4 births per 1,000 females aged 19 or less. Adjusting for the 50% of teenage moms who fail to graduate from high school as a result of their teenage motherhood, the total lifetime saving from a reduction in teenage pregnancies among BGCMP Club members in 2014-2015 is estimated at over \$5.2 million (2016 \$).

<sup>55</sup> Damoeei's 2011 study assumed a 37-year working life per high school graduation. However, the average retirement age for American men in 2013 is 63.9, and for women 61.9. A 40-year working life is therefore used in the current study.

An estimated 433 BGCMP members age 13 or older in 2014-2015 abstained from underage drinking, compared to the Maricopa County average. Applying the statewide average cost per underage drinker, this equates to a saving or benefit of \$2,975,576 (2016 \$).

The rate of smoking in the past 30 days in Maricopa County is 5.1 percentage points higher compared to the BGCMP Club member survey, which suggests an additional 120 teenage Club members abstained from tobacco. Approximately 75% of teenage smokers convert into adult smokers. Applying a statewide lifetime cost of \$488,616 adult smoker,<sup>56</sup> this equates to a potential lifetime saving or benefit of \$43,975,440 (2016 \$).

Comparing the Arizona Youth Survey 2014 data for Maricopa County with the NYOI 2016 survey, Seidman estimates that an additional 125 BGCMP teenagers potentially abstained from marijuana usage in 2014-2015. The annual outpatient healthcare saving of this abstention is \$626,500. This excludes any criminal costs to avoid double-counting with the monetization of juvenile crime savings in the current study. It also excludes any loss of productivity, for example, in school, through disability, or even premature death. The true cost saving associated with a reduction in the number of marijuana users is therefore almost certainly higher than Seidman's estimate in this study.

Seidman estimates that the total number of juvenile arrests in BGCMP in 2014-2015 is 52 juveniles/youths lower than the Maricopa County rate, all other things being equal. This equates to a total court savings cost of \$215,231 in 2014-2015, and a total single-year saving of \$800,984, based on the assumption that 70.1% of the avoided arrests would be found guilty by the Maricopa County Juvenile Court.

Over two thirds of working households participating in the parent survey strongly agreed with the statement that "Sending my child to the Boys & Girls Club makes it easier for me to keep my job." This suggests that BGCMP's safe, affordable after-school care in 2014-2015 enabled at least 4,155 households to continue to work. The total benefit for the Arizona economy for a single year is estimated at \$126,170,730, based on a \$30,366 weighted average annual income per Club member working household.

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<sup>56</sup> This monetary value errs on the side of caution by excluding the financial opportunity cost.

The total impact of BGCMP on the State of Arizona economy in 2014-2015, encompassing “paid-for” operations, capital expenditure, and the in-kind support of volunteer workers, is also estimated at 255.6 jobs, \$11 million labor income, and \$14.1 million GSP (both 2016 \$).

Considered as a whole, Seidman therefore estimates that Maricopa County receives \$18.22 of benefits for every \$1 invested in the BGCMP. This is a conservative estimate for the following reasons:

- There is considerable overlap between benefits. For example, higher graduation rates could be in part a result of a lower teenage pregnancy/mom rate, and a reduction in juvenile crime. To compensate for this, Seidman has made adjustments to the monetization of individual benefits. If each benefit is analyzed in isolation, the actual return on investment will in most cases be higher than the values quoted in this study and summarized in Table 23.
- There are additional benefits that cannot be included within the current assessment due to inadequate data. For example, the impact of healthy eating and drinking or enhanced levels of physical activity on obesity; and the presence of the Clubs enabling parents to continue studying in part to increase their future lifetime earnings potential.

Seidman therefore recommends an update of this analysis within a minimum of 3 and maximum of 5 years, to review the benefit adjustments, and also enhance the data collection methods for obesity, physical activities, and enablement of parents to continue their schooling.

**APPENDIX**





## BOYS & GIRLS CLUBS OF METROPOLITAN PHOENIX

Thank you for taking the time to participate in this survey. Our goal is to understand how you feel about your child's Boys & Girls Club. If you have more than one child currently attending this Boys & Girls Club, please answer the questions with your oldest child in mind. Your answers will help us to improve our programs. Please try to answer as many of the questions as possible, and fill in the marks clearly.

YOUR ANSWERS ARE **ANONYMOUS** AND **STRICTLY CONFIDENTIAL**.

Thank you for participating. Your input is very important to us.

Please fill in marks like this: ● Not like this: ⊖ or this: ⊗

**Q1. What is the school grade of your child?**

*Please select one answer.*

- K
- 1st
- 2nd
- 3rd
- 4th
- 5th
- 6th
- 7th
- 8th
- 9th
- 10th
- 11th
- 12th

**Q2. How long has your child attended this Club?**

*Please select one answer.*

- Less than 6 months
- 6 months to 1 year
- 1 year to 2 years
- 2 years to 3 years
- 3+ years

**Q3. How many times a week has your child attended this Club since the start of the current school year?** *Please select one answer.*

- 4-5 times a week
- 2-3 times a week
- Once a week
- Less than once a week

**Q4. What are your greatest challenges when considering school-age child care?** *Please select all that apply.*

- Cost of care
- Quality of care
- Summer care
- Transportation
- Other

**Q5. Why do you send your child to the Boys & Girls Club?** *Please select all that apply.*

- Club is a safe place when I'm working
- Club helps with homework/tutoring
- Club offers enrichment programs
- Club offers physical activity/sport clubs
- Club develops better study habits
- Club promotes a healthier lifestyle
- Club helps to build character

**QUESTIONS 6-15 ASK YOU TO INDICATE THE EXTENT TO WHICH YOU AGREE OR DISAGREE WITH A STATEMENT. PLEASE SELECT ONE ANSWER FOR EACH QUESTION.**

**Q6. Since going to the Boys & Girls Club, my child is better able to make friends.**

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

**Q7. Since going to the Boys & Girls Club, my child shows more self-confidence.**

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

**Q8. Since going to the Boys & Girls Club, my child seems to enjoy going to school more.**

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

**Q9. Since going to the Boys & Girls Club, my child's school grades have improved.**

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

**Q10. Since going to the Boys & Girls Club, my child is completing homework assignments more often.**

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

**Q11. Since going to the Boys & Girls Club, my child makes healthier food and drink choices.**

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

**Q12. Since going to the Boys & Girls Club, my child shows more interest in doing physical exercise on a regular basis.**

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

**Q13. Sending my child to this Club makes it easier for me to keep my job.**

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree
- Not Applicable

**Q14. Sending my child to this Club makes it easier for me to go to school.**

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree
- Not Applicable

**Q15. I am certain that my child will complete High School.**

- Strongly Agree
- Agree
- Not Sure
- Disagree
- Strongly Disagree

**Q16. Has your child been arrested since becoming a member of the Boys & Girls Club? Please select one answer.**

- Yes
- No
- I do not wish to answer

**Q17. Has your daughter become pregnant since becoming a member of the Boys & Girls Club?** *Please select one answer.*

Hispanic

Other

Yes

No

I do not have a daughter at this Club

I do not wish to answer

**Q.18 Are you working for pay outside home?** *Please select one answer.*

Yes – I have one full-time job

Yes – I have one part-time job

Yes – I have more than one part-time job

No – I am not working for pay outside the home

**Q19. What is your annual household income?** *Please select one answer.*

\$0 to \$13,999

\$14,000 to \$17,999

\$18,000 to \$23,999

\$24,000 to \$27,999

\$28,000 to \$31,999

\$32,000 to \$35,999

\$36,000 to \$45,999

\$46,000 to \$64,999

\$65,000+

**Q20. What is your marital status?** *Please select one answer.*

Single (never married)

Married or domestic partnership

Widowed

Divorced

Separated

**Q21. What is your ethnicity?** *Please select one answer.*

African American

Native American

Asian

White/Caucasian

**Thank you for completing our survey. If you would like to make any further comments, please do so below:**



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