Post-Graduation Pathways:
Economic Costs for Students Who Fail to Launch

Prepared for Baltimore's Promise

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A failure to launch: Why does it matter and what are the challenges?

Emerging adulthood, the years that stretch from the late teens to the mid-twenties, are critical toward building education and labor force connections (Burd-Sharps et al., 2014). These connections serve as the foundation for future economic sustainability and self-sufficiency. For many young adults, however, developing that connection never happens. Referred to as disengaged, disconnected, or opportunity youth, these are young adults between 16 to 24 years old who are neither working nor in school. Belfield and colleagues (2012) suggest that these young adults exist in a variety of environments and face a variety of challenges:

> Some may have dropped out of school or [technical, 2-or 4-year] college and are unable to find work; some may be involved in the criminal justice system; some may have mental or health conditions that have inhibited their activities; or some may have care-giving responsibilities in their families (p. 1).

Those barriers sever critical educational and workforce connections needed to propel young adults into the next phase of adulthood. While much of the literature has typically focused on those who disengage or disconnected prior to high school graduation (Bridgeland & Milano, 2012; Corcoran, Hanleybrown, Steinberg, & Tallant, 2012; Ross & Svaljlenka, 2016), little is discussed of those who graduate high school but are neither enrolled in a post-secondary institution nor in the workforce. Despite facing similar obstacles to those to disengage prior to high school graduation, these young graduates have persisted through high school to earn a diploma. Yet, that persistence has not resulted in a transition toward the two main paths for short- and long-term human capital growth—continued education or developing valuable work experience (Belfield et al., 2012; Kroeger & Gould, 2017).

About this Brief

This is one of a series of three data briefs about the paths taken by Baltimore students after they graduate from high school. This brief was prepared for Baltimore's Promise by the Johns Hopkins School of Education Institute for Education Policy

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The inability to leverage that persistence comes at considerable economic cost. On average, more education yields more pay, with a high school graduate with no post-secondary education earning significantly less over their lifetime compared to those who a post-secondary credential (Carnevale, Garcia, & Gulish, 2017; Ewert & Kominski, 2014). Furthermore, highly educated or skilled workers are more likely to be employed full-time, are less likely to be exposed to employment volatility, (Taylor et al., 2014) and more likely to have access to retirement plans or pension coverage (Vinik, 2017).

The economic turbulence of recent years appears to have played some role in "idling" these young adults. Recent analysis by the Economic Policy Institute (2017) shows that, nationally, 15.1 percent of recent high school (age 17-20) graduates are neither enrolled nor employed, compared with 13.7 percent in 2007 and 12.1 percent in 2000. For those young adults who may be ready to launch, but require additional support, available resources are scarce. Workforce development resources are typically prioritized to individuals seeking high school equivalency or those reengaging with the economy that possess work-ready skills (Ross & Svaljlenka, 2016). This further exasperates already troubling trends of young adults without a post-secondary degree or credential who never fully engage in the workforce (Elejalde-Ruiz, 2016; Van Horn, Zukin, Szeltner, & Stone, 2012; Wong, 2017). Simply put, there is little in the way of programming or resources for unengaged, recent high school graduates.

Missing the return on investment: BCPS Class of 2009

States invest in education, in large part, to a future workforce that will sustain and expand economic growth (OECD, 2010). Youth struggling to capitalize on their persistence through compulsory education can stunt this growth, felt most directly by lost tax revenues. An analysis of the Baltimore City Public Schools' Class of 2009 (n≈4,280) shows that approximately 26 percent of graduates were neither enrolled in a post-secondary institution, nor working for a Maryland business during the fall after graduation.

Six years after graduation, approximately 170 graduates never appear in either college enrollment or Maryland workforce data. While the available data does have limitations regarding certain types of employment,[1] slightly less than half of all Class of 2009 graduates (48%) retain stable employment.[2] The reality is at any given time, a number of high school graduates in this cohort are unemployed.

In order to broadly gauge this loss in economic growth, research from Carnevale and colleagues (Carnevale, Rose, & Cheah, 2013) illustrates the potential lifetime earnings based on educational attainment (see Figure 1 below):[3]

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[1] Limitations prevent identifying graduates who are in the military, working outside of Maryland or are federal employees, incarcerated, or deceased.

[2] MLDSC, prepared March 2017. Note: Workforce data limited to employment in Maryland, and do not include military or federal employees, self- employed, or informal labor.

[3] The U.S. dollar experienced an **average inflation rate** of 1.62% per year between 2009 and 2015. Inflation adjusted were made using The Bureau of Labor Statistics' annual Consumer Price Index (CPI), established in 1913. Inflation data from 1665 to 1912 is sourced from a historical study conducted by political science professor Robert Sahr at Oregon State University (http://www.in2013dollars.com/2009-dollars-in-2016?amount=973000).

Figure 1

Expected Median Lifetime Earnings by Highest Educational Attainment 2015 dollars	
Less than High School	$1,080,000
High School Diploma	$1,450,000
Some College/No Degree	$1,720,000
Associates Degree	$1,920,000
Bachelor's Degree	$2,520,000
Master's Degree	$2,960,000
Doctoral Degree	$3,600,000
Professional Degree	$4,040,000

Based on this broad representation of median lifetime earnings[4] (amounting to 40 working years), a high school diploma holder will earn roughly $1.5 million, which is $36,250 annually ($17.43 per hour) (Carnevale et al., 2013). Assuming a Baltimore City worker with a high school degree earns the median salary, her annual income tax contributions (using effective tax rates for a Baltimore City resident) would be approximately $8,564:[5]

- $3,381 in federal tax (effective tax rate of 9.33%);
- $2,773 in FICA tax (effective tax rate of 7.65%);
- $1,418 in state tax (effective tax rate of 3.91%); and
- $992 in local tax (effective tax of rate of 2.74%).

For a high school graduate unemployed for six consecutive years, this amounts to approximately $51,384 in uncaptured income tax revenue (based on median salary):

- $20,286 in federal tax;
- $16,638 in FICA tax;
- $8,508 in state tax; and
- $5,952 in local tax.

Calculated for the cohort of approximately 170 of high school graduates neither working, nor enrolled over six years,[6] the result is approximately $8.8 million in uncaptured revenue (based on potentially earning the median salary):

- $3.5 million in federal tax;
- $2.8 million in FICA tax;
- $1.4 million in state tax; and
- $1.02 million local tax.

The above calculations represent a significant amount of the lost revenue. However, they make a rather large assumption: that a worker with a high school diploma is earning nearly $40,000

[4] All earning figures are gross dollar estimates.

[5] https://smartasset.com/taxes/maryland-tax-calculator#9m8KnClO9k

[6] Given the data limitations discussed in endnote one, it is unlikely that all approximately 220 students would be unemployed for six consecutive years.

annually in a city where one-third of households earn less than $25,000 annually.[7] A more conservative estimate for projected uncaptured revenues assumes a high school diploma holder earning the Maryland minimum wage in Baltimore City ($8.25 in 2015 dollars).[8] The annual salary for this individual would be roughly $17,160, based on a full-time, 40-hour per week employment. In this scenario, annual income tax contributions would be $2,866:[9]

- $660 in federal tax (effective tax rate of 3.85%),
- $1,313 in FICA tax (effective tax rate of 7.65%),
- $512 in state tax (effective tax rate of 2.98%), and
- $381 in local tax (effective tax rate of 2.22%).

Again, based on this broad representation of earnings, a high school graduate not working for six consecutive years accounts for approximately $17,196 in uncaptured income tax revenue:

- $3,690 in federal tax;
- $7,878 in FICA tax;
- $3,072 in state tax; and
- $2,286 in local tax.

Calculated for the approximately 170 high school graduates neither working, nor enrolled after six years,[10] the result is approximately $3.4 million in uncaptured income tax revenue:

- $685,000 in federal tax;
- $1.4 million in FICA tax;
- $530,000 in state tax; and
- $395,000 in local tax.

Economic inactivity of emerging adults bears additional costs

Looking beyond the lost state and local income tax revenues, states incur additional costs when individuals fail to capitalize on their educational investment:

- Incarceration rates in Maryland are highly concentrated to Baltimore City, with roughly one in three Maryland residents in state prison being from Baltimore City (Petteruti, Kajstura, Schindler, Wagner, & Ziedenberg, 2015).[11] The annual cost of incarceration is approximately $44,601 per inmate, with a per capita cost of $179 (2015 dollars).[12] Over a six-year period, the cost is approximately $267,606 per inmate, with a per capita cost of $1,074. For comparison, it costs roughly $72,000 less to educate a BCPS Class of 2017

[7] http://bniajfi.org/community/Baltimore%20City/

[8] Minimum wage dollar amount is based on the amount effective July 1, 2015. The current minimum wage is $1 higher effective July 1, 2017: https://www.dllr.state.md.us/labor/wages/minwagehistory.shtml

[9] https://smartasset.com/taxes/maryland-tax-calculator

[10] Given the data limitations discussed in endnote one, it is unlikely that all approximately 170 students would be unemployed for six consecutive years.

[11] Currently, there are approximately 7800 individuals from Baltimore City in Maryland state prisons. The total number of Baltimore City residents within this population is unavailable https://www.prisonpolicy.org/origin/md/cities_and_towns.html

[12] https://www.vera.org/publications/price-of-prisons-2015-state-spending-trends

graduate.[13] Additionally, incarceration further exacerbates income tax revenue losses, with more than 60% of formerly incarcerated individuals remaining unemployed one year after release (The Sentencing Project, 2015).

- Safety net benefits are another potential cost incurred to states. For instance, the maximum allowable payment for a single adult receiving Food Supplemental Program (FSP) benefits in Maryland is $194 in 2017.[14] That said, FSP is means-tested program with specific eligibility criteria (e.g. an individual or family must not exceed a certain level of income) and it is unlikely a recipient would receive FSP for six consecutive years. Nonetheless, a single individual receiving the maximum payable benefit would receive $2,328 annually ($13,968 over 6 years).[15]

  The calculations for the maximum allowable monthly payment for Temporary Cash Assistance (TCA, Maryland's Temporary Assistance for Needy Families program) are a bit more complex. In addition to having means-tested eligibility criteria, TCA benefits are only available to families with dependent children (including pregnant mothers). Additionally, there is a five-year time limit on TCA benefits. However, Maryland is clear they will not remove individuals who are complying with their independence plans simply because they have reached the five-year limit.[16] Thus, there are two scenarios to consider:

  - A maximum monthly benefit of $293 in 2017[17] for a single adult caring for a related-child (including pregnancy); and
  - A maximum monthly benefit of $513 for two people receiving benefits, in this case one adult and one child.

  Furthermore, the demographic profile of TCA recipients in Maryland indicates that slightly more than 90% of recipients are female (Thiebaud-Nicoli & Logan-Passarella, 2017). Thus, the cohort projections below account for the female population only. Based on those parameters, the annual benefits receipts for each scenario is as follows:

  - *Scenario one*: A single individual receiving the maximum benefit would receive $3,516 annually ($21,096 over 6 years). For the approximately 100 female

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[13] Maryland Department of Legislative Services. Overview of Maryland Local Governments: Finances and Demographic Information; FY05-FY17.

[14] The U.S. Department of Agriculture annually updates the benefit amounts for a cost of living adjustment, so the benefit amount may actually increase in each of the 6 years graduates are not employed: https://www.fns.usda.gov/snap/cost-living-adjustment-cola-information

[15] For the entire cohort of approximately 200 Class of 2009 graduates not connected to school or work, the annual benefits receipts would be $398,088 ($2.38 million over 6 years). Given the data limitations discussed in endnote one, it is unlikely that all approximately 170 students would receive benefits for six consecutive years.

[16] https://dhr.maryland.gov/documents/Data%20and%20Reports/FIA/FY-2017 Minimum%20Living%20Level%20Report.pdf

[17] The Maryland Department of Human Services annually updates the TCA benefit amounts based on the minimum living level in the state: http://dhr.maryland.gov/documents/Data%20and%20Reports/FIA/FY-2017-Minimum%20Living%20Level%20Report.pdf

graduates who were not working after high school, the annual benefits receipts would be $341,052 ($2.04 million over 6 consecutive years).

- *Scenario two*: A family of two (a single individual with a dependent child) receiving the maximum benefit would receive $6,156 annually ($36,936 over 6 years). For the 100 female graduates not working after high school, the annual benefits receipts would be $632,052 ($3.8 million over consecutive 6 years).

As with FSP above, it is unlikely that a recipient would receive benefits for six consecutive years. In fact, the average receipt of benefits over a five-year period is 20 months (Thiebaud-Nicoli & Logan-Passarella, 2017). Based on the 20-month average, TCA benefits receipts for each scenario is as follows:

- *Scenario one*: A single individual receiving the maximum benefit over 20 months would receive $5,860 in benefits. For the entire cohort of 100 female graduates, the 20-month benefits receipts would be $568,240.
- *Scenario two*: A family of two (a single individual with a dependent child) receiving the maximum benefit over 20 months would receive $10,260 in benefits. For the cohort of 100 female graduates not working after high school, the 20-month benefits receipts would be $995,220.

Discussion

Given the complexity of the 21st century economy, achieving economic sustainability often requires some form of post-secondary education: on-the-job training; technical skill development; or continued academic study. There is no earnings payoff, *or return on investment*, for persisting through high school and failing to launch into the next phase (Rosenbaum & Ahearn, 2016). Educational leaders and policymakers should consider thoughtful and intentional interventions aimed at helping young high school graduates develop both short- and long-term career prospects. Furthermore, policymakers should work with industry and philanthropy to develop and grow talent-development pipelines. Failure to do so squanders valuable resources and erases gains achieved through student persistence and development.

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