Boston Public Schools
Strategies to Serve Off-Track Youth

Project Summary

May 2018
**Project Overview**

Our report reflects an effort that began in the summer of 2017.

### Data Analysis

- All data collection and analysis on this project was conducted under the terms of a **contract and non-disclosure agreement with BPS**

- BPS provided EY-Parthenon with **blinded student-level data** on all students enrolled in grades 6-12 from SY2009-10 through SY2016-17, including data related to demographics, enrollment/attendance, and performance.

- We also **collected and analyzed extensive financial data** related to the high school budgets and central office spending related to high schools.

- The “**off-track to graduate**” definition is based on BPS-provided student data and was confirmed with BPS as part of the project.

### Stakeholder Engagement

- Throughout this project, we have shared findings with and received input from a range of stakeholders, including:
  - A ~20 person **Steering Committee** comprised of BPS representatives (selected from among district leadership, staff, and headmasters)
  - **BPS Executive Cabinet**
  - **School Committee members**
  - **High school leaders**
  - **The Mayor’s Office**

- We also conducted **focus groups with students** to better understand experiences of high school students in Boston Public Schools.
Off-Track Youth in BPS High Schools

This study relies on a definition of “off-track to graduate” that is based on students’ age and credit patterns in BPS high schools.

A student who is off-track to graduate is one who is at least two years off-pace relative to typical age and credit patterns of graduates in BPS high schools.

Age and credit thresholds for defining off-track to graduate:

<table>
<thead>
<tr>
<th>Age</th>
<th>Credits</th>
</tr>
</thead>
</table>
| 16  | Fewer than 5.5 credits  
(5.5 credits is equivalent to one year of HS on average in BPS schools) |
| 17  | Fewer than 11 credits |
| 18  | Fewer than 16.5 credits |
| 19+ | Fewer than 22 credits |

In this presentation, we use a “cohort view” to follow two cohorts to observe students and their outcomes over time (Class of 2014 and Class of 2017).

We also take a “snapshot view” of the 2015-16 school year to analyze BPS’ high school population at a recent, single point in time.

Note: This definition has been confirmed with BPS.
Note: The Class of 2017 cohort described on this page includes high school students enrolled in BPS-affiliated Horace Mann charters. The cohort view was built using BPS ODA data with guidance from DESE. For the SY2015-2016 snapshot view, a student was counted as off-track to graduate based on their age on September 1st, 2015, and credits accumulated in the prior year. A student is not included in this count if they were not enrolled within the month of September 2015.

Source: BPS data; MA DESE data; BPS website; EY-Parthenon analysis.
Off-Track Youth in BPS High Schools
Thousands of students in BPS high schools have fallen “off track to graduate,” and this figure has not declined significantly in the past decade

A high school student who is “off-track to graduate” or “off-track” has fallen at least two years behind for his or her age

There were ~3,300 off-track students in BPS high schools in SY2015-16, plus thousands more who are of school age but have dropped out

18% of all BPS high school students were off track at the start of the 2015-16 school year

Ten years ago, when this study was first conducted, 20% of all BPS high school students were off track

Source: BPS data; EY-Parthenon analysis
Off-Track Youth in BPS High Schools
The off-track to graduate population can be grouped into segments that imply different needs for students and different school models to serve them

Within the off-track population, students may be closer or further from graduation based on their age and the number of credits they have earned

- **“Young and far”**
  Students who are 16 or 17 years old and are more than two years away from graduation
  SY2015-16: 1,391 students (42% of off-track students)

- **“Old and far”**
  Students who are age 18 or older and are more than two years away from graduation
  SY2015-16: 884 students (27% of off-track students)

- **“Old and close”**
  Students who are age 18 or older, and are within two years of graduation
  SY2015-16: 677 students (20% of off-track students)

- **“Overage late entrant EL”**
  Students who are English learners and enter BPS for the first time at age 18 or older
  SY2015-16: 166 students (6% of off-track students)

Source: BPS Data; EY-Parthenon Analysis
Off-Track Youth in BPS High Schools

The population of off-track youth reflects the equity issues of the broader system

BPS high school student population by off-track status and student characteristics,

*Class of 2017 cohort*

Note: Analysis reflects students’ IEP status, ELD level, and self-identified gender and race / ethnicity at time of arrival to BPS; analysis excludes the 91 students who self-identified as Native American or Other, due to sample size issues; analysis excludes non-diploma bound students. *Students without differentiated needs includes all students who do not have an IEP, are not English learners, and are not eligible for free lunch. Source: BPS Data; EY-Parthenon Analysis

Within a given race, the disparity was most acute on the basis of gender between Black females and males.
Off-Track Youth in BPS High Schools

Preventing students from falling off track and better serving those who do is key to making further gains in the BPS graduation rate

On-track students: graduation outcomes

- 84% of on-track* students graduated within four years
- 89% of on-track students graduated within six years

Off-track students: graduation outcomes

- 25% of off-track students graduated within four years
- 36% of off-track students graduated within six years

*Students who are on-track are those who never fell off track at any point in high school by the age and credit definition used in this study (two years off-track relative to typical age and credit patterns in BPS high schools, where 5.5 credits is equivalent to one year on average of high school in BPS

Note: Data is shown for the Class of 2014 cohort; analysis excludes non-diploma bound students

Source: BPS data; EY-Parthenon analysis
Off-Track Youth in BPS High Schools

Key messages

► This is a need that has to be addressed at the high school level (it also will benefit from work on middle school, elementary, early childhood – but cannot be just those things)

► Many open enrollment high schools are both under-performing and under-selected by families

► System policies like student assignment – beyond exam schools – are an important part of the challenge…

► …But individual schools can also deliver much stronger outcomes and be more effectively designed (stronger leadership, clearer accountability for student support, more rigorous instruction, etc.)

► There is a need to make it easier for students to access alternative education, and to build school models that align to their specific needs
Off-Track Youth in BPS High Schools
…the majority of off-track HS youth have no identifiable early warning indicator

Over 50% of students come into high school with no identifiable early warning indicator

Off-track population by early warning indicator status

Class of 2017 cohort

1,058

Were not in BPS middle schools

Were in BPS middle schools: had no EWIs

Were in BPS middle schools: had 1 EWI

Were in BPS middle schools: had multiple EWIs

“Early Warning Indicators” (EWIs)* are factors students display in the 8th grade:

► Attendance: Less than 85% attendance
► Discipline: 1 or more days suspended out-of-school
► Core course failure: 1 or more core courses failed
► MCAS: Warning level on both 8th Grade MCAS

*Note: 1,058 students fell off track in the Class of 2017 cohort, which had 4,417 diploma-bound students; analysis excludes non-diploma bound students; core course failures include English or math course failures. Source: BPS Data; Parthenon Analysis
Off-Track Youth in BPS High Schools
Many open-enrollment schools have experienced sharply declining enrollment

Peak high school enrollment v. recent enrollment, throughout SY2008-09 – SY2016-17

-1% -1% -1% -1% -1% -3% -4% -6% -6% -9% -13% -15% -20% -26% -29% -29% -36% -38% -39% -48%

Note: In DESE data reports, Newcomer’s Academy is included within Boston International; current enrollment is measured in September, BINCA’s peak enrollment doesn’t occur until later in the year, so they are excluded from this analysis; from SY2015-18, Burke and Dearborn shared a building, which could affect Burke’s enrollment numbers; however, enrollment at the school was declining at ~4% per year prior to co-location and the schools will occupy separate buildings in fall 2018
Source: BPS data; DESE Data; EY-Parthenon analysis
Off-Track Youth in BPS High Schools

Many schools with the highest need are under-selected by families, relying on special programs and later rounds for enrollment

Peak 9th grade enrollment v. entering 9th graders by assignment, SY2008-09 – SY2015-16

Exam | Selective admissions | Lottery admissions | Open enrollment

| 448 | 345 | 155 | 127 | 101 | 89 | 108 | 86 | 496 | 465 | 345 | 331 | 289 | 288 | 177 | 176 | 174 | 162 | 148 | 144 | 90 | 66 | 65 | 64 | 36 |

*Indicates that a student received any school ranked in Round 1, and does not necessarily reflect if this school choice was in a student’s Top 3 ranking

Note: “Peak” enrollment is here defined as the maximum 9th grade enrollment a school has experienced over the past decade; school assignment data is shown for first-time 9th graders as of September 2015, and therefore does not include late entrants or repeating 9th graders; the September snapshot does not accurately reflect enrollment at BINCA, which receives many late entrants, so it is excluded from this analysis; beginning in SY2015, Burke and Dearborn have shared a building – this co-location could affect Burke’s enrollment numbers, though enrollment at the school was declining at ~4% per year prior to co-location and the schools will be in separate buildings beginning in SY2018-19

Source: BPS data; DESE Data; EY-Parthenon analysis
Off-Track Youth in BPS High Schools

BPS high schools are stratified in the populations they serve, with open enrollment high schools serving a high concentration of need.

Demographic profile of the total entering 9th grade class,

*Snapshot view, SY2015-16*

![Bar chart showing the demographic profile of the total entering 9th grade class.](chart.png)

- **Open Enrollment**: 60%
- **Lottery Admissions**: 51%
- **Selective Admissions**: 37%
- **Exam**: 10%

### # students w/ differentiated needs
- **Open Enrollment**: 1,534
- **Lottery Admissions**: 86
- **Selective Admissions**: 159
- **Exam**: 109

Note: Analysis only considers students who were first-time 9th graders in SY2015-2016; students with multiple unique needs are assigned to only one category based on the hierarchy as ordered in the legend above.

Source: BPS Data; Parthenon Analysis
Off-Track Youth in BPS High Schools

Many BPS high schools are transferring a large share of their total students to other schools in the district.

Percent of students transferred from 9th grade school, Class of 2017 cohort

Note: All transfer and graduation rates shown are 4-year outcomes of Class of 2017 students who were enrolled in the given school as first time 9th graders in 2013-14 and who attended a BPS school for 8th grade; while BPS classifies Lyon as a special populations school, 50% of the school’s seats are open enrollment while the other 50% are special education; we therefore include them as an open enrollment school; Source: BPS Data; Parthenon Analysis
Off-Track Youth in BPS High Schools

We can estimate the odds of graduation for any student in a BPS high school based on the district’s current performance ...

Illustrative at-risk student

► Age 14 in 9th grade
► Fails a core course in 8th grade
► Receives an NI or higher on MCAS exams
► Has average attendance (93%)
► Has no out-of-school suspensions

The regression analysis suggests this student had a 70% chance of graduating in four years in an average BPS high school

Note: “Average” BPS high school is defined as a school with a first-time 9th grade class in which ~28% of students who were in BPS for 8th grade have at least one EWI, the average among open enrollment, selective, and exam schools in the fall of SY2015-16
Source: BPS Data; Parthenon Analysis
Off-Track Youth in BPS High Schools

…and also see that the composition of the school can have a large impact on a student’s odds of success

The same student would be expected to have very different graduation outcomes in different school settings based on the current design of schools in BPS

<table>
<thead>
<tr>
<th>School A</th>
<th>School B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum % with EWIs: ~5%</td>
<td>Low % with EWIs: ~20%</td>
</tr>
<tr>
<td>Expected graduation rate: 85%</td>
<td>Expected graduation rate: 77%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Illustrative at-risk student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 14 in 9th grade</td>
</tr>
<tr>
<td>Fails a core course in 8th grade</td>
</tr>
<tr>
<td>Receives an NI or higher on 8th grade MCAS exams</td>
</tr>
<tr>
<td>Has average attendance (93%)</td>
</tr>
<tr>
<td>Has no out-of-school suspensions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School C</th>
<th>School D</th>
</tr>
</thead>
<tbody>
<tr>
<td>High % with EWIs: ~35%</td>
<td>Maximum % with EWIs: ~50%</td>
</tr>
<tr>
<td>Expected graduation rate: 65%</td>
<td>Expected graduation rate: 52%</td>
</tr>
</tbody>
</table>

Note: All school profiles shown here reflect the concentration of students with EWIs who were enrolled in BPS in 8th grade and who are in the 9th grade classes of actual BPS high schools in SY2015-16; Source: BPS Data; Parthenon Analysis
Off-Track Youth in BPS High Schools
Some schools are producing strong, differentiated outcomes versus peer schools with similar student bodies

Actual cohort four-year graduation outcomes by 9th grade school,
Class of 2017 cohort

Based on the students they enroll, these pairs of schools would be expected to have similar graduation rates, yet they produce different outcomes

Note: All data are shown for students in the Class of 2017 cohort who were enrolled in BPS in 8th grade and in the respective high school as first-time 9th graders in the fall of 2013
Source: BPS Data; Parthenon Analysis

<table>
<thead>
<tr>
<th>School</th>
<th>4-year dropouts</th>
<th>Still enrolled</th>
<th>4-year graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>School 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School 6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Predicted cohort graduation rate

<table>
<thead>
<tr>
<th>School</th>
<th>School 1</th>
<th>School 2</th>
<th>School 3</th>
<th>School 4</th>
<th>School 5</th>
<th>School 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>69%</td>
<td>68%</td>
<td>62%</td>
<td>62%</td>
<td>56%</td>
<td>58%</td>
<td></td>
</tr>
</tbody>
</table>

Actual cohort graduation rate

<table>
<thead>
<tr>
<th>School</th>
<th>School 1</th>
<th>School 2</th>
<th>School 3</th>
<th>School 4</th>
<th>School 5</th>
<th>School 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>63%</td>
<td>79%</td>
<td>53%</td>
<td>68%</td>
<td>49%</td>
<td>66%</td>
<td></td>
</tr>
</tbody>
</table>
Off-Track Youth in BPS High Schools

Today, BPS spends ~$230m on high schools, of which there is a ~$50M pool where BPS has the greatest discretion in making allocations.

**BPS high school funding, FY18**

- **$233m**
  - **High School Supports Budgeted Centrally**
  - **Other School Allocations**
  - **Specialized Programming Allocations**
  - **Base Allocations**

**“Supplemental Resources”: $48m**

- Includes all additional funding allocated directly to schools, plus Central Office support provided directly to schools and students.
- These funds are where BPS has the greatest level of discretion. All allocations and spending in this category reflect policy decisions made within the district.

**Specialized Programming Allocations: $44m**

- Highly differentiated based on student need.
- Includes special education, ELD, and SLIFE allocations based on the projected number of seats in specialized programs, as well as Nurse and COSESS allocations.
- These items are considered to be essential to the school because schools have to comply with the terms of IEPs, regulations under IDEA, and service requirements for ELD students (including DOJ requirements).

**Base Allocations: $140m**

- Standard across all high schools.
- Includes foundational allocations ($210K per school) plus the base WSF allocation made on the basis of grade level.
- These allocations are considered to be essential because they are funding the core staffing and operational needs of all schools, though we recognize the flexibility of these dollars may vary from school to school.

Note: Specialized programming allocations include: WSF allocations tied to special education seats, ELD seats, and SLIFE seats, as well as IDEA allocations, additional SLIFE support, and Nurse/COSESS allocations; Other school allocations include all other direct allocations to schools; Source: Boston Public Schools All Funds FY18 Budget; EY-Parthenon analysis.

---

**Today, BPS spends ~$230m on high schools, of which there is a ~$50M pool where BPS has the greatest discretion in making allocations.**

**Base Allocations: $140m**

- Standard across all high schools.
- Includes foundational allocations ($210K per school) plus the base WSF allocation made on the basis of grade level.
- These allocations are considered to be essential because they are funding the core staffing and operational needs of all schools, though we recognize the flexibility of these dollars may vary from school to school.

**Specialized Programming Allocations: $44m**

- Highly differentiated based on student need.
- Includes special education, ELD, and SLIFE allocations based on the projected number of seats in specialized programs, as well as Nurse and COSESS allocations.
- These items are considered to be essential to the school because schools have to comply with the terms of IEPs, regulations under IDEA, and service requirements for ELD students (including DOJ requirements).

**“Supplemental Resources”: $48m**

- Includes all additional funding allocated directly to schools, plus Central Office support provided directly to schools and students.
- These funds are where BPS has the greatest level of discretion. All allocations and spending in this category reflect policy decisions made within the district.

---

**BPS high school funding, FY18**

- **$233m**
  - **High School Supports Budgeted Centrally**
  - **Other School Allocations**
  - **Specialized Programming Allocations**
  - **Base Allocations**

---

**Specialized Programming Allocations: $44m**

- Highly differentiated based on student need.
- Includes special education, ELD, and SLIFE allocations based on the projected number of seats in specialized programs, as well as Nurse and COSESS allocations.
- These items are considered to be essential to the school because schools have to comply with the terms of IEPs, regulations under IDEA, and service requirements for ELD students (including DOJ requirements).

---

**Base Allocations: $140m**

- Standard across all high schools.
- Includes foundational allocations ($210K per school) plus the base WSF allocation made on the basis of grade level.
- These allocations are considered to be essential because they are funding the core staffing and operational needs of all schools, though we recognize the flexibility of these dollars may vary from school to school.

---

**“Supplemental Resources”: $48m**

- Includes all additional funding allocated directly to schools, plus Central Office support provided directly to schools and students.
- These funds are where BPS has the greatest level of discretion. All allocations and spending in this category reflect policy decisions made within the district.
Off-Track Youth in BPS High Schools
There is little correlation between the concentration of students with risk factors in a school and the school’s allocation of supplemental resources.

High school supplemental resources vs. school concentration of need, FY18

Note: At traditional high schools, % incoming students with risk factors is the share of first-time 9th graders who are already off-track at their entry to high school, or are flagged as having at least one EWI from 8th grade; At alternative high schools, % incoming students with risk factors is the share of students who are off-track at their entry into the alternative school; All student data shown is for the 2015-16 school year; excludes Community Academy, Horace Mann, the Carter Center, and the McKinley Schools given the differentiated funding needs of those programs.

Source: BPS Data; EY-Parthenon Analysis.
Off-Track Youth in BPS High Schools
Alternative schools have served a highly off-track population with a wide range of needs

Enrollment in alternative education schools by off-track student profile
Snapshot view, SY2015-16

% off-track
Greater Egleston: 90%
BATA: 86%
BDEA: 85%
Boston Collaborative: 64%
Dorchester Academy: 61%
Community Academy: 57%

Source: BPS data; EY-Parthenon analysis
Off-Track Youth in BPS High Schools

Alternative education schools have lower attendance and graduation rates for off-track students

Average attendance rate of off-track students
In Alt Ed. programs v. all other schools,
SY2015-16

60%
56%
77%

Six-year graduation rate of off-track students
in Alt. Ed programs v. all other schools,
Class of 2014 Cohort

40%
39%
30%

Note: Most Boston Collaborative High School students are not included in the graduation analysis, as Boston Collaborative High School was not represented with a distinct school code until SY2015-2016. Excludes non-diploma bound students.
Source: BPS Data; Parthenon Analysis
Off-Track Youth in BPS High Schools

Students who are referred to an alternative school by the REC often do not receive a placement, and many become or remain disconnected from school.

Referrals, placements and end-of-year outcomes of students who interacted with the REC in SY2016-2017,

*All SY2016-17 REC interactions*

Note: A significant portion of students who did not receive a placement were out of school in the first place, and these students remain out of school when not placed.

Source: BPS Data; REC/PIC Data; Parthenon Analysis
How many students are attending a high-quality high school that they and their family chose?
Off-Track Youth in BPS High Schools
Our report will close with five recommendations

What will it take? Guiding principles:
1. Address fundamental, systemic issues
2. Both school level and system level change
3. New ongoing approach to high school management

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transform open enrollment and selective schools through a coordinated plan</td>
<td>Overhaul alternative education</td>
<td>Put early warning data in educators’ and families’ hands</td>
<td>Use policy to enhance equity and conditions that allow all schools to succeed</td>
<td>Evolve how the district manages its high schools on an ongoing basis</td>
</tr>
<tr>
<td>Grow/replicate strong, in-demand schools</td>
<td>Replace existing seats</td>
<td>Develop easy-to-use, timely infrastructure</td>
<td>Admissions policy</td>
<td>Manage the portfolio with continuous improvement mindset</td>
</tr>
<tr>
<td>Incubate new models</td>
<td>Design schools based on specific needs</td>
<td>Support schools on how to put the data to the right use</td>
<td>Funding</td>
<td>Clearer autonomy and accountability</td>
</tr>
<tr>
<td>Redesign the lowest performers</td>
<td>Strengthen and ease access and support</td>
<td></td>
<td>Student mobility</td>
<td></td>
</tr>
</tbody>
</table>
About EY
EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit ey.com.

Ernst & Young LLP is a client-serving member firm of Ernst & Young Global Limited operating in the US.

EY-Parthenon is a brand under which Ernst & Young LLP as well as other EY member firms across the globe provide strategy consulting services.

© 2018 Ernst & Young LLP. All Rights Reserved.

EYG no. 02515-183GBL

This material has been prepared for general informational purposes only and is not intended to be relied upon as accounting, tax or other professional advice. Please refer to your advisors for specific advice.

ey.com