



Strategic Planning to Serve Off-Track Youth

Data Review and Strategic Implications

September 2007

Boston Public Schools

The Parthenon Group

Jobs for the Future

The Bill and Melinda Gates Foundation



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Review of Summary Project Data

A detailed understanding of BPS' off-track youth and system performance is required to better serve the highest-risk student populations and increase citywide graduation rates

Clarifying the Dropout Pipeline

Performance and Resources of the "First Chance" System

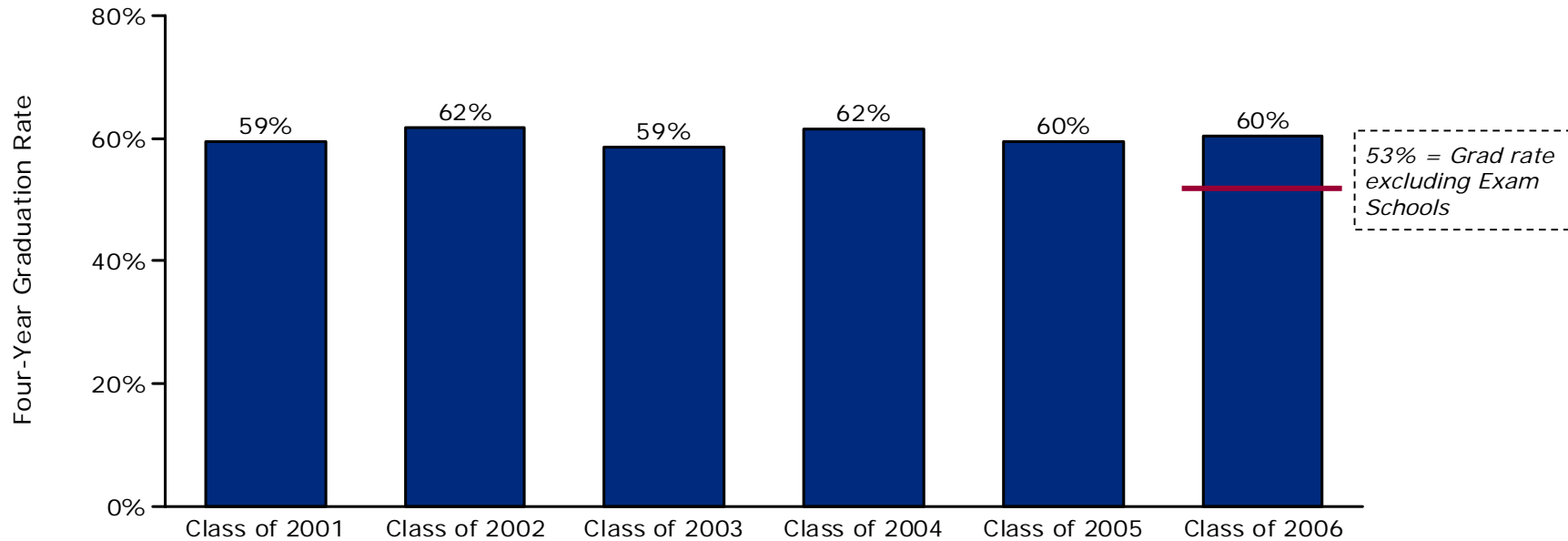
Assessing Alternative Education

- What are BPS student outcomes today, and how have they changed in recent years?
- Which characteristics are both predictive and comprehensive as risk factors for eventual dropout outcomes?
- How much does BPS invest in the off-track population today?
- What is the scale of Boston's current off-track youth challenge?

Clarifying the Dropout Pipeline

BPS' Four-Year Graduation Rate Is Stagnant at ~60%, and the Number of Annual Dropouts Has Increased in Recent Years

BPS Four-Year Graduation Rate, Class of 2001 – Class of 2006



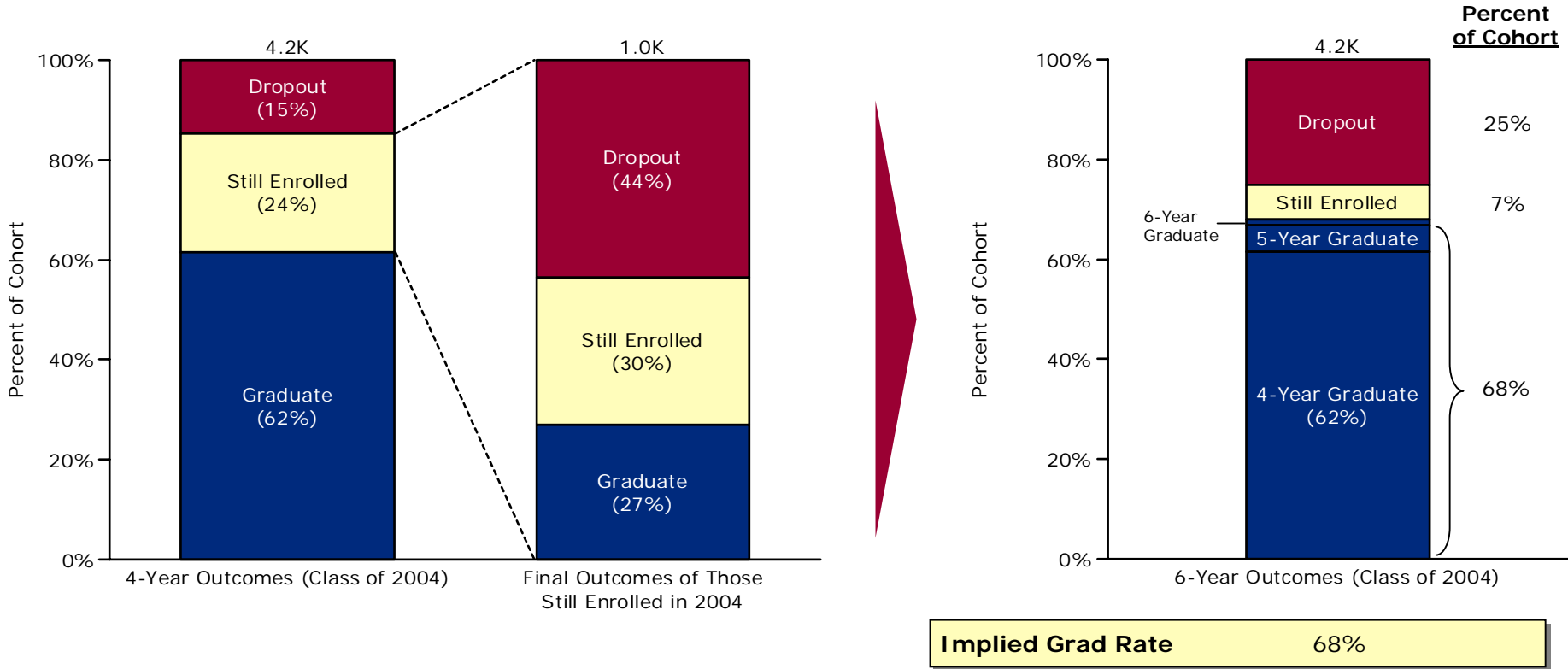
# Dropping-Out During School Year:	1.7K	1.5K	1.5K	1.5K	1.6K	1.9K
Dropouts as % of Total HS Enrollment:	8.6% <i>(2000-01)</i>	7.7% <i>(2001-02)</i>	7.3% <i>(2002-03)</i>	7.2% <i>(2003-04)</i>	8.0% <i>(2004-05)</i>	9.1% <i>(2005-06)</i>

Clarifying the Dropout Pipeline

27% of Students Who Remain Enrolled After 4 Years Graduate within 6 Years, Leading to a 6-Year Grad Rate of 68%

- Of the 7% of students who remain enrolled after six years of high school, 23% are in substantially separate SPED classes

Student High School Outcomes, Class of 2004 Cohort

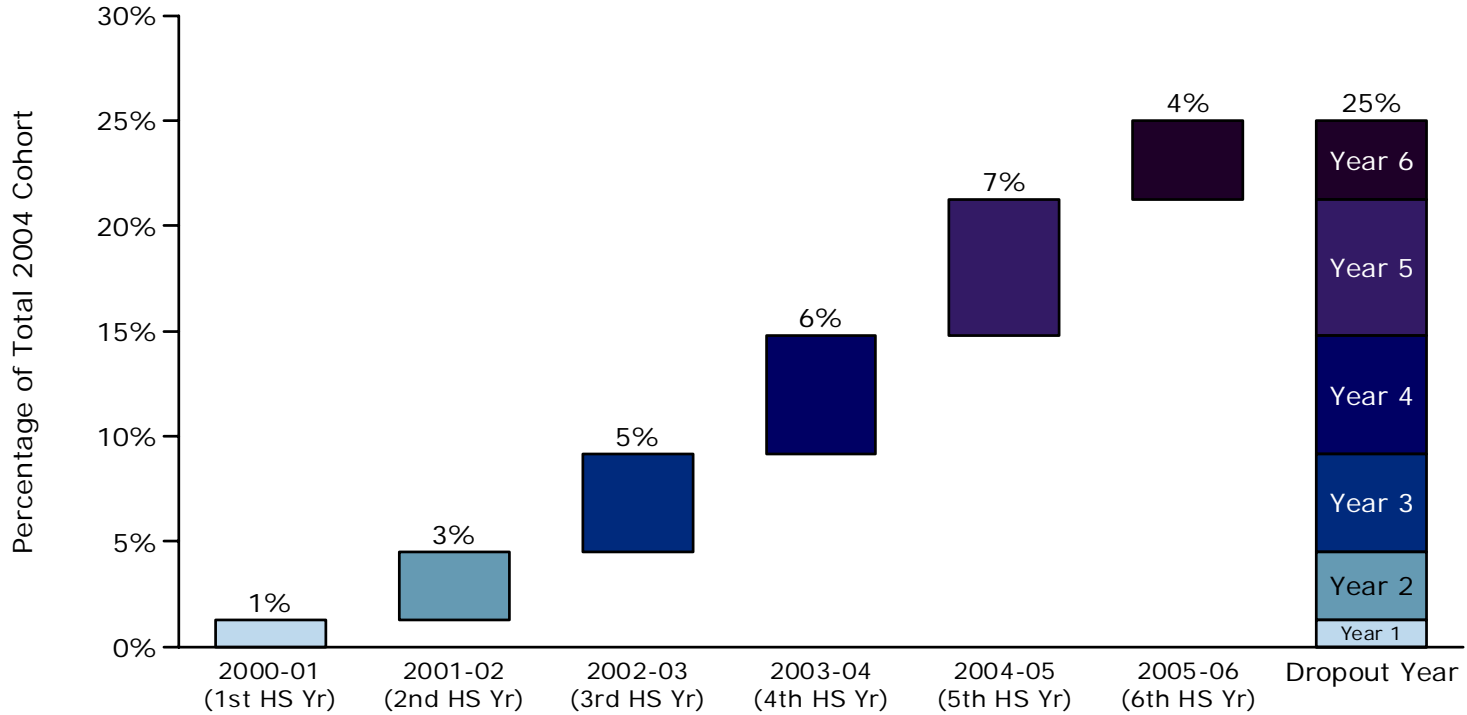


Note: Students labeled as "Still Enrolled" in the 2004 cohort population may include some students who graduated before 2003-04
 Source: BPS Internal Data

Clarifying the Dropout Pipeline

84% of Dropouts Occur In the 3rd Year of High School or Later

Annual Student Dropouts for the Class of 2004, 2000-2006



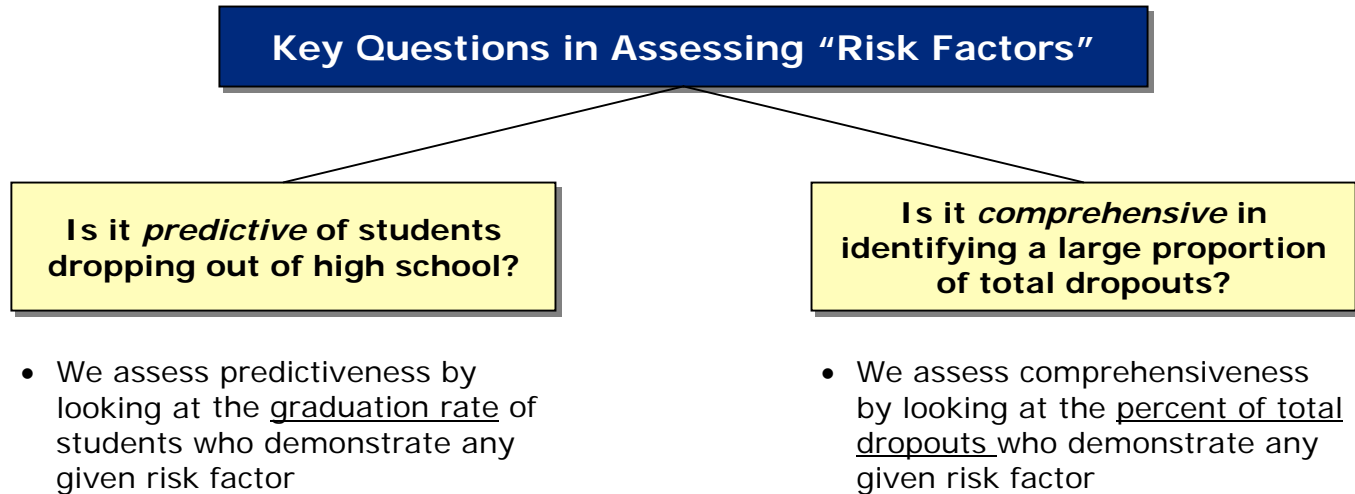
Annual Dropouts:	54	136	196	235	274	158	1,053
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**In total, BPS spent \$49MM on dropouts from the Class of 2004
within the high school years alone**

Clarifying the Dropout Pipeline

Framework for Dropout Analysis: Predictive *and* Comprehensive



Clarifying the Dropout Pipeline

What *Did Not Work* in Defining Early Indicators for BPS Dropouts?

Entering High School Overage

- Only 15% of all dropouts enter high school at age 16 or older (although this group has only a 27% four-year graduation rate)

Attendance Prior to High School

- Only 10% of all dropouts had an attendance rate below 80% in 8th grade (though this group has only a 15% four-year graduation rate)

Middle School Course Performance

- Only 22% of all dropouts failed multiple courses in 8th grade (though this group has only a 26% four-year graduation rate)

Middle School MCAS Scores

- Students failing one or both middle school MCAS exam have a 48% four-year graduation rate (students failing one MCAS exam graduate at 57%, nearly the system average)

High School MCAS Scores

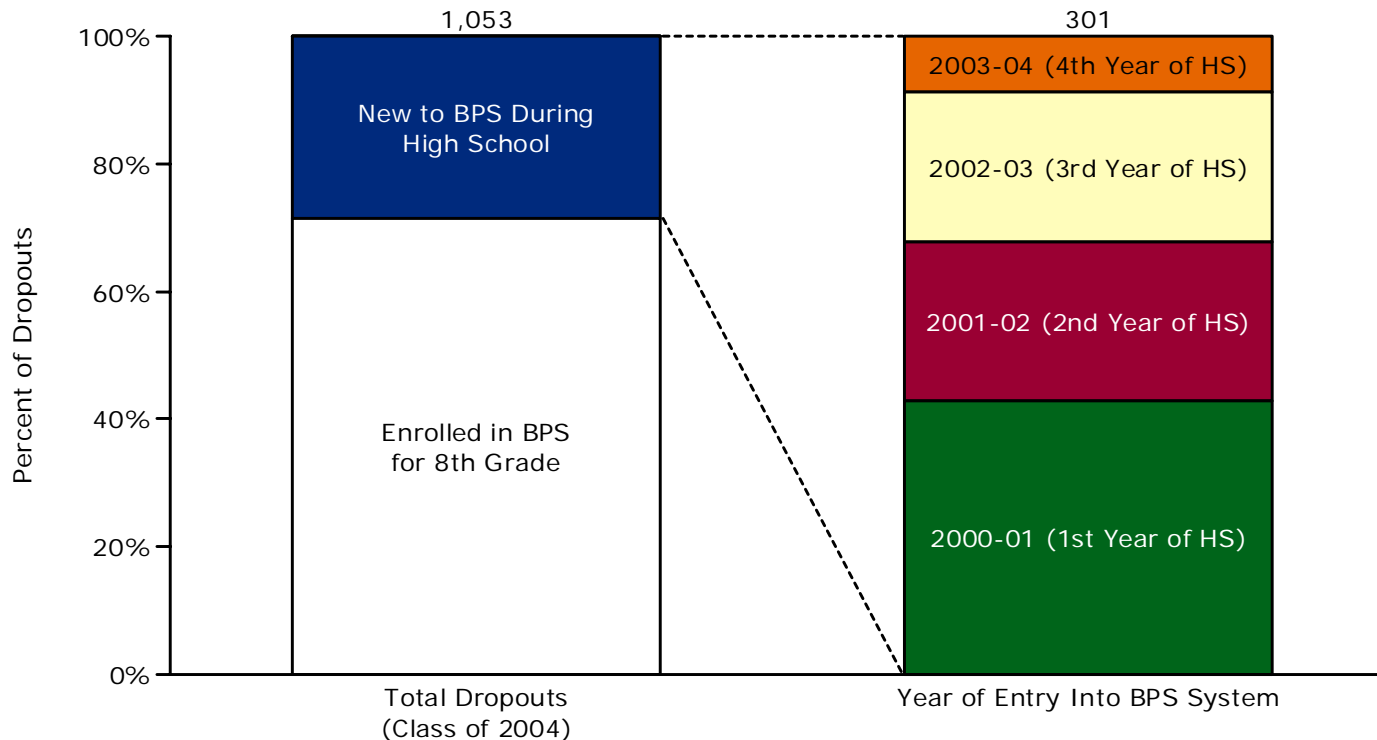
- 24% of all dropouts had passed both MCAS exams
- 39% of all dropouts have not taken either MCAS exam (mostly because they drop out before the test-taking point in 10th grade)

Clarifying the Dropout Pipeline

The Dropout Population Reflects High Mobility within BPS, Complicating the Identification of Early Indicators

- Almost 30% of eventual dropouts did not attend a BPS middle school
 - 57% of these “late entrant” dropouts do not arrive in BPS until 10th grade or later

Time of Entry into BPS System for all Dropouts, Class of 2004



* Includes Exam school students
Source: BPS Internal Data

Clarifying the Dropout Pipeline

Three-Quarters of All BPS Dropouts Fit Into Four Key Segments, None of Which Have a 4-Year Graduation Rate Above 36%

Segments Are Mutually Exclusive (Overlap Between Segments Has Been Removed)

(1) Late Entrant ELL Students	(2) Substantially Separate SPED Students	(3) Students with One or More 8th Grade Risk Factors	(4) Students Failing Multiple Core Courses in 9th Grade
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<u>Percent of Class of '04 Dropouts:</u>	13% of dropouts (137 dropouts)	17% of dropouts (169 dropouts)	26% of dropouts (274 dropouts)	18% of dropouts (190 dropouts)
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<u>Graduation Rate:</u>	36% 4-year rate 47% 6-year rate	24% 4-year rate 32% 6-year rate	34% 4-year rate 40% 6-year rate	31% 4-year rate 48% 6-year rate
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- | | | | |
|--|---|---|--|
| <p><u>Description:</u></p> <ul style="list-style-type: none"> English language learning students who enter BPS for the first time during high school | <ul style="list-style-type: none"> All students who are substantially separate SPED at any point in grade 9-12, excluding students with severe disabilities not intended for a diploma | <ul style="list-style-type: none"> Risk factors include: <ul style="list-style-type: none"> - Attendance rate below 80% - Two or more years overage - Fail multiple core courses | <ul style="list-style-type: none"> First time 9th graders who fail one or more course in English, Math, Science or History |
|--|---|---|--|



Each year, BPS high schools take in approximately 2,000 first-time 9th graders across these four segments

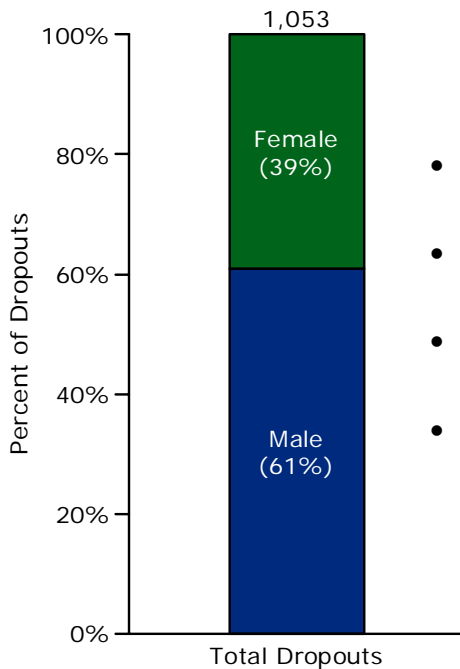
Note: In removing overlap between segments, students were assigned to a group based on the numbered hierarchy above
Source: BPS Internal Data

Clarifying the Dropout Pipeline

The Dropout Segments Tend to Reflect the Racial and Gender Disparity of the Overall Dropout Population

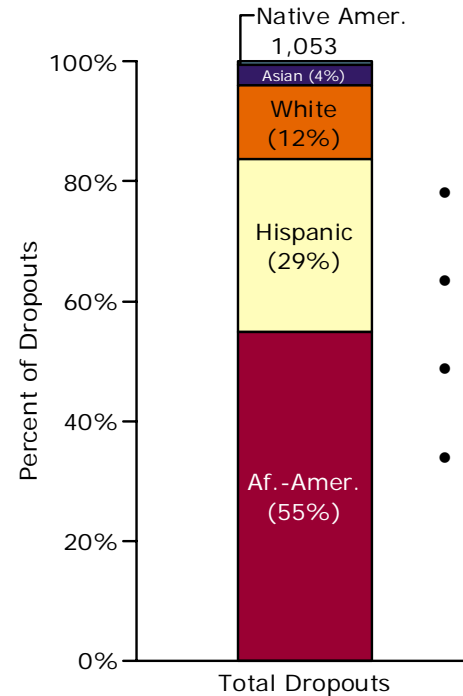
- The exception is the Substantially Separate SPED segment, which is more likely to be male and African-American vs. the dropout population overall

Class of 2004 Dropouts by Gender



- Late Entrant ELLs:** 55% Male
- Subst. Sep. SPED:** 73% Male
- 8th Gr. Risk Factors:** 60% Male
- 9th Gr. Course Failure:** 59% Male

Class of 2004 Dropouts by Ethnicity



- Late Entrant ELLs:** 54% African-American
- Subst. Sep. SPED:** 60% African-American
- 8th Gr. Risk Factors:** 57% African-American
- 9th Gr. Course Failure:** 54% African-American

Clarifying the Dropout Pipeline

BPS Per-Pupil Resource Allocation Varies Widely Across High-Need Student Groups

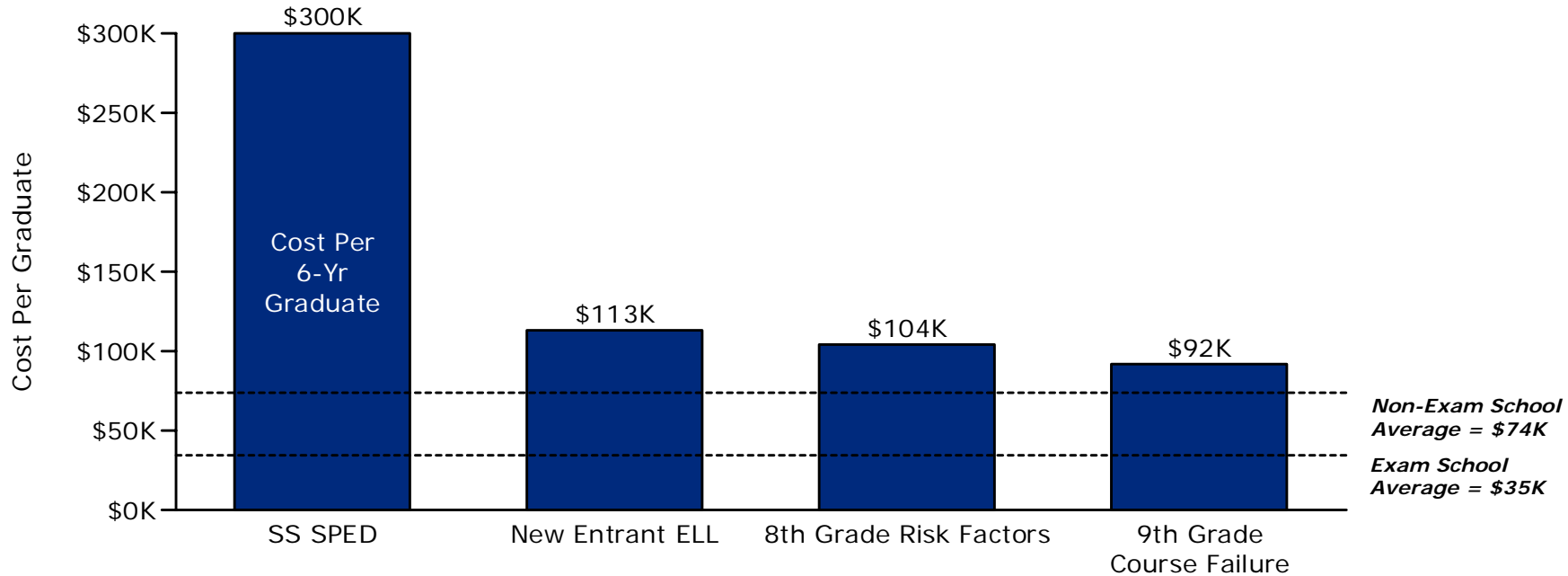
- ERS calculated high school student weights to reflect the varying costs of serving student groups with different needs
- Using the cost of a regular education student as a baseline at 1.0, weights for the four student populations reflect differentiated costs, driven primarily by staffing ratios

Student Type	School-Based Instruction & Admin. Per-Pupil (\$K)	Ratio	Actual Enrollment (12/15/05)
All HS Students	\$10.6	1.3	20,617
<i>General Ed</i>	\$8.1	1.0	19,017
Poverty	\$8.7	1.1	13,146
ELL	\$14.3	1.8	1,496
SPED	\$16.6	2.0	1,415
Sub. Separate SPED	\$21.6	2.7	1,593

Clarifying the Dropout Pipeline

The Result of System-Wide Inability to Serve Off-Track Youth Is a Substantial Financial Investment per Graduate (Grade 9-12 \$ Only)

**High School Cost Per 6-Year Graduate,
by Mutually Exclusive Segments, Class of 2004 Cohort**



6-Yr. Grad. Rate	32%	47%	40%	48%
Avg. Cost Per Pupil	\$22,340	\$14,766	\$10,375	\$10,085
Avg. Yrs Per Pupil	4.3	3.6	4.0	4.4
Cost per Pupil	\$95,900	\$53,103	\$41,545	\$44,115

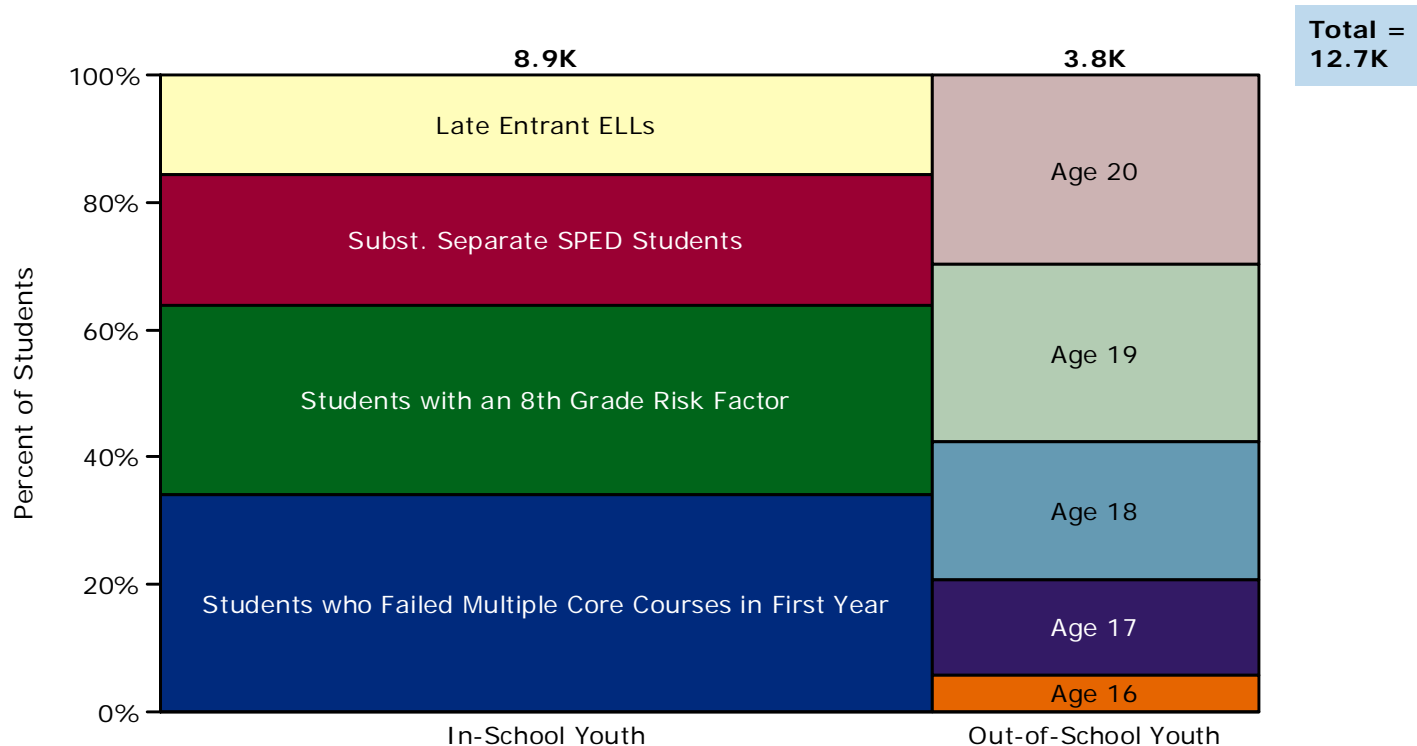
Note: Cost per graduate calculated for all students from Class of 2004 Cohort, including those in internal alternative education programs; Includes Instruction and Administrative costs only
Source: BPS Internal Data; ERS 2006 Financial Model

Clarifying the Dropout Pipeline

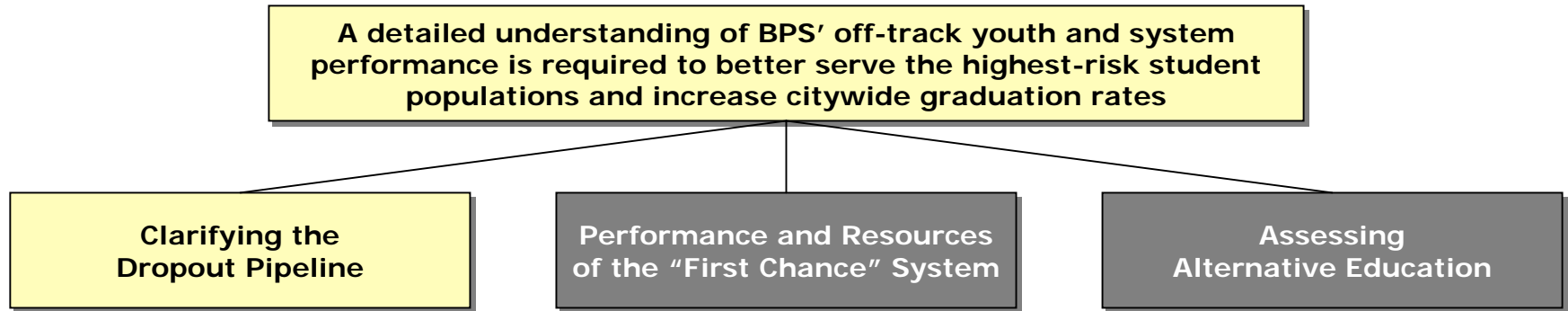
Nearly 13,000 Boston High School-Age Youth Are Off-Track, When Including Both In- and Out-of-School Youth

- The *in-school* off-track population represents 43% of BPS high school enrollment (or 61% when including out-of-school youth), based on an estimated 9-12 high school enrollment of ~20,000 in 2006

Estimated School Age Off-Track Population, In- vs Out-of-School, 2006



Review of Summary Project Data



- **BPS faces the challenge of raising a stagnant graduation rate of 60% over four years**
 - However, the persistence of dropouts (58% remain enrolled at least four years) provides BPS with an opportunity to intervene during high school
- **BPS can address 75% of its dropouts by focusing on four distinct student segments**
 - All of these students can be identified by the end of the first year of high school, at the latest
- **BPS already makes a substantial financial investment in off-track youth, but weak performance of existing options makes for inefficient spend**
 - BPS spent \$49MM in grades 9-12 alone serving dropouts from the Class of 2004
- **The scale of the problem -- ~13,000 in- and out-of-school youth – demands an urgent system- and city-wide focus**

Review of Summary Project Data

A detailed understanding of BPS' off-track youth and system performance is required to better serve the highest-risk student populations and increase citywide graduation rates

Clarifying the Dropout Pipeline

Performance and Resources of the "First Chance" System

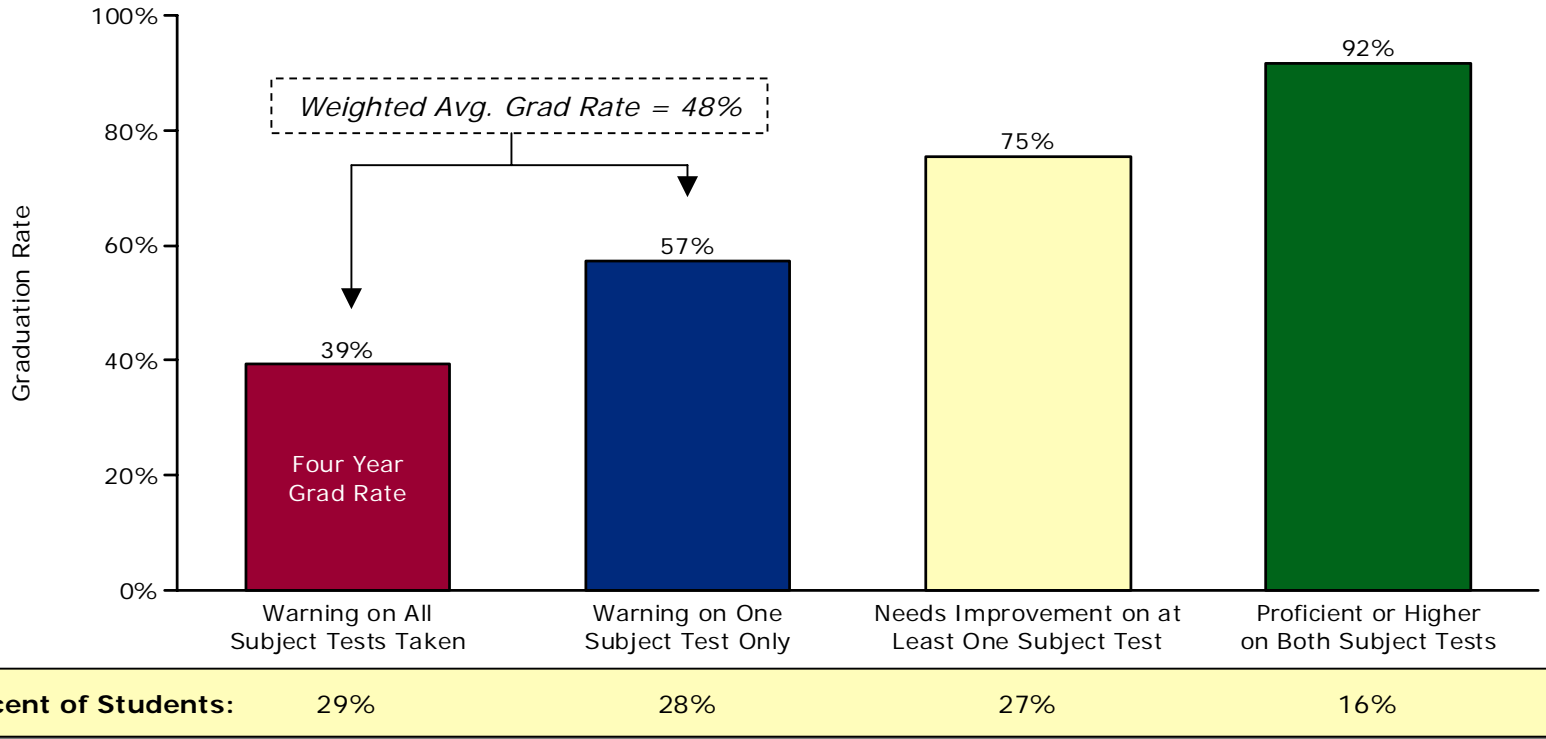
Assessing Alternative Education

- **What is the profile of students enrolled across BPS' different high school options?**
- **Which schools enroll higher concentrations of higher-risk students?**
- **What outcomes do schools generate with the target population? Who is "beating-the-odds"?**
- **How have restructuring efforts affected the preventive power of BPS high schools?**

Performance and Resources of the “First Chance” System

Students Entering High School with Weak MCAS Scores Maintain a Strong Chance of Graduating

Four-Year Graduation Rate by Performance on Middle School MCAS Exams, Class of 2006 Cohort



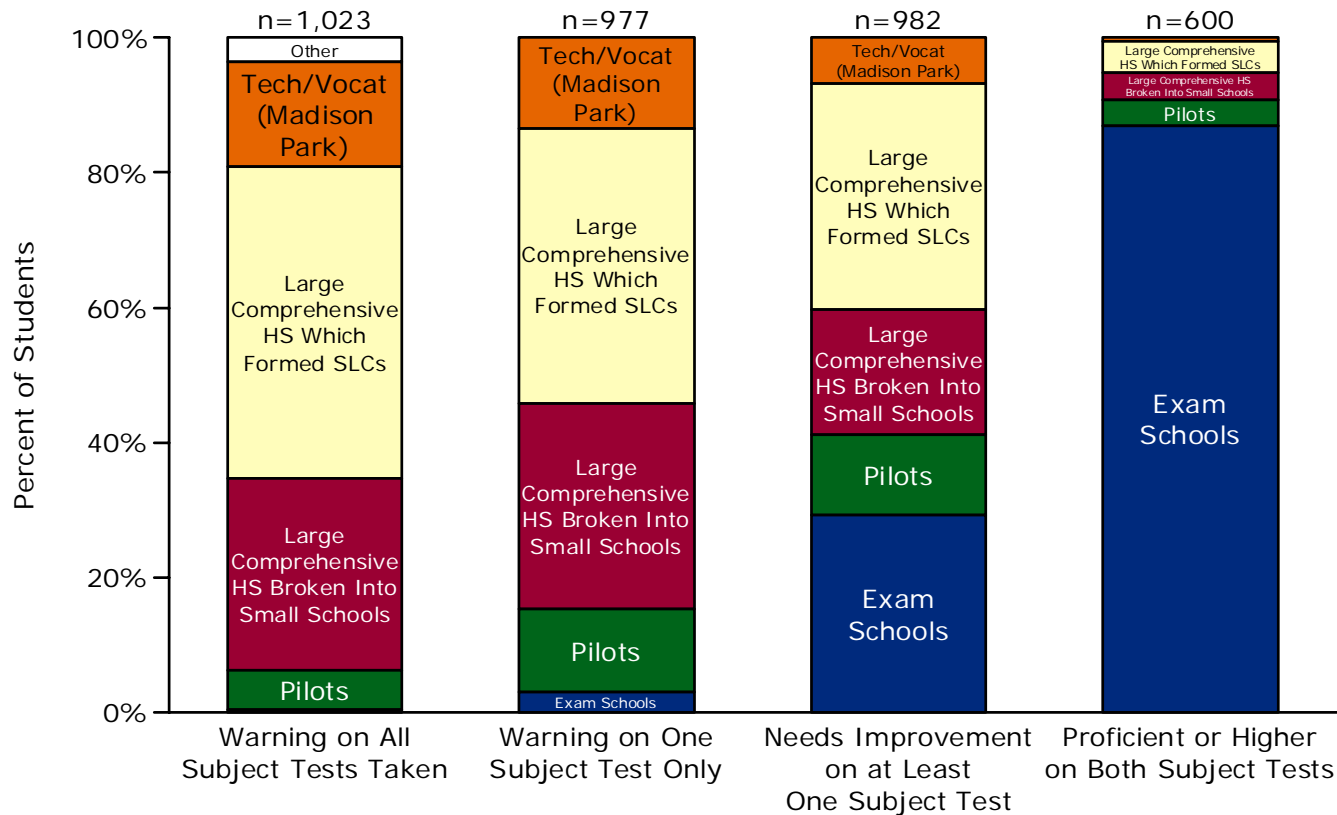
Which schools are best at bringing these students to graduation?

Performance and Resources of the “First Chance” System

Exam Schools Enroll the Vast Majority of the Most Proficient Students

- 87% of students who scored Proficient or Advanced on both middle school MCAS tests attend an Exam school
- 90% of students who scored a Warning on both middle school MCAS tests attended Madison Park or one of the recently restructured large high schools

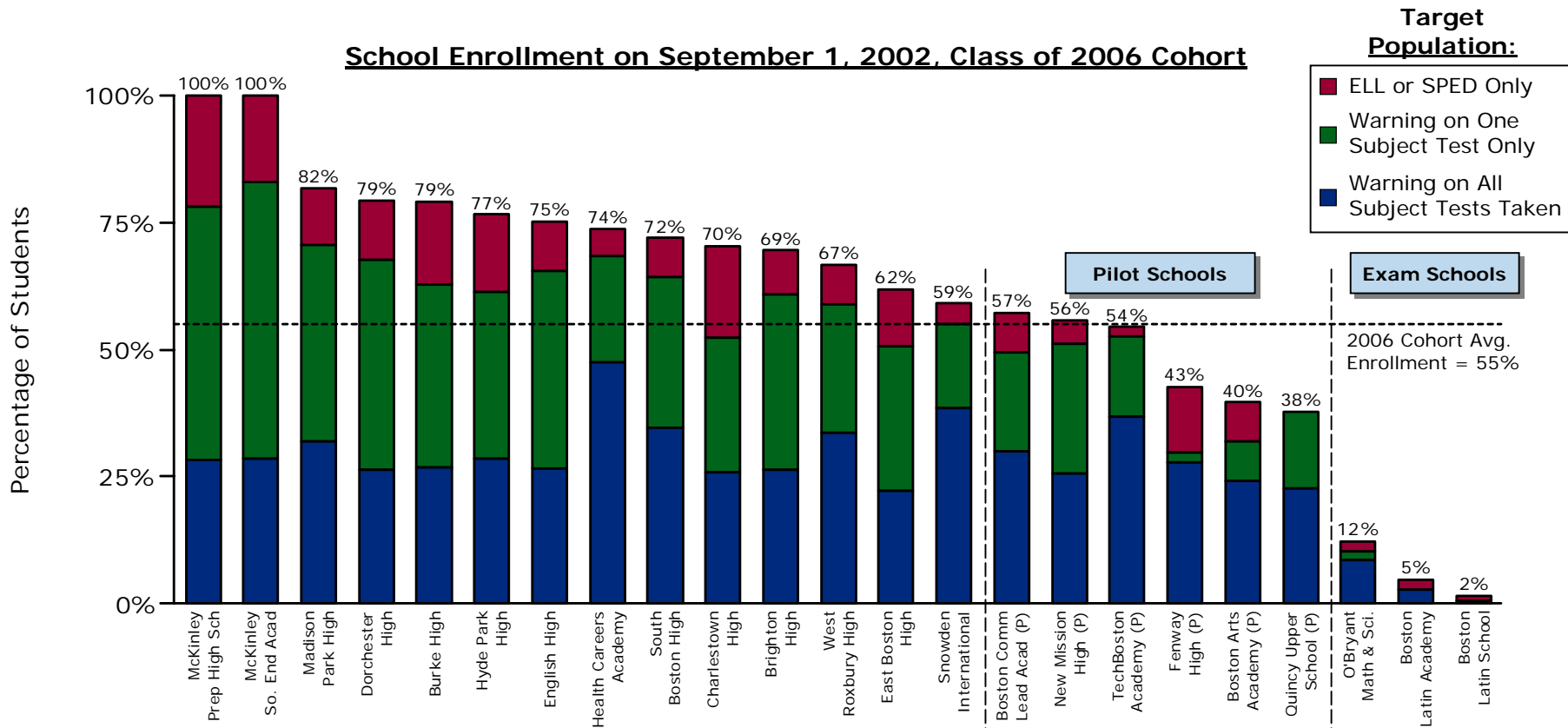
9th Grade Enrollment by Middle School MCAS Scores, Class of 2006 Cohort



Performance and Resources of the “First Chance” System

Most Non-Exam, Non-Pilot Schools Serve a High Concentration of Students Defined within a “Target Population”

School Enrollment on September 1, 2002, Class of 2006 Cohort



% ELL:	3%	9%	14%	8%	13%	12%	14%	0%	5%	12%	13%	6%	9%	2%	5%	0%	4%	6%	4%	6%	0%	0%	0%
% SPED:	100%	100%	32%	39%	35%	35%	29%	16%	29%	31%	26%	24%	19%	16%	25%	16%	14%	17%	12%	9%	2%	2%	1%
% SS SPED:	94%	100%	10%	23%	17%	17%	14%	3%	12%	17%	12%	7%	4%	1%	9%	0%	2%	0%	1%	0%	0%	0%	0%
2002-2003 9-12 Enrollment:	91	127	1,563	798	799	1,062	1,148	182	973	1,176	1,119	1,264	1,384	409	511	206	73	265	381	53	962	1,027	1,570

Performance and Resources of the “First Chance” System

Methodology for Identifying Over- and Under-Performing Schools

Actual Performance *within the Target Population*

- To compare similar students across schools, we are looking at the performance only of a defined group:
 - Students with a Warning on at least one middle school MCAS exam OR
 - Students who are ELL or SPED
- For each school, we calculated the four-year graduation rate of these students in the Class of 2006
 - Actual rates across schools varied from 92% to 26%

Expected Performance Based on System Averages

- Even though we are examining performance within a defined population group, certain schools have more challenged students within our target population
 - For example, schools with larger proportions of SS SPED students would be expected to perform worse (based on system averages)
- For each school, we calculated the expected four-year graduation rate based on the mix of *subgroups within the target population*
 - Expected rates across schools varied from 21% to 57%, vs. the average graduation rate for the target population of 48%

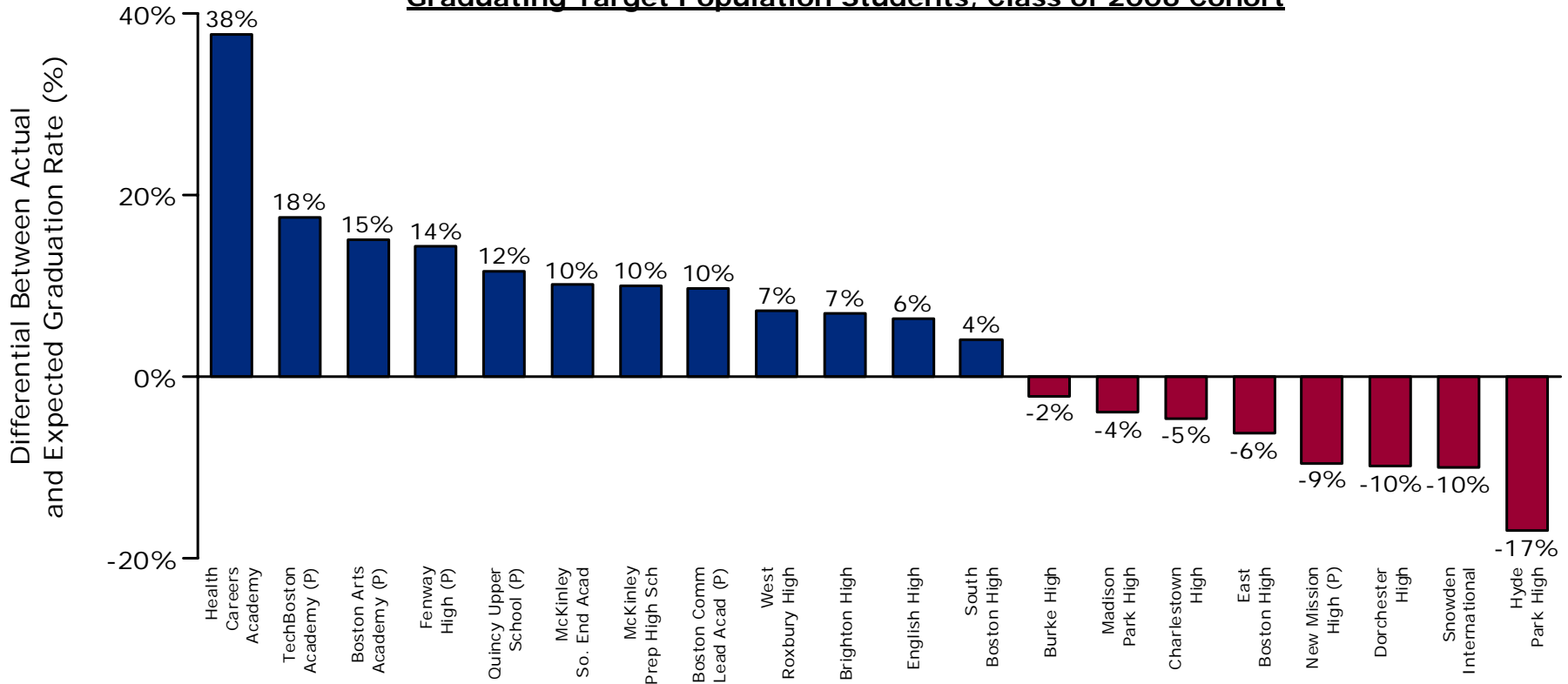


**Over- vs. under-performance is based on the difference
between actual and expected performance**

Performance and Resources of the “First Chance” System

Schools Show a Range of Performance with the Target Population

**Over-and Under-Performance in
Graduating Target Population Students, Class of 2006 Cohort**



2002-2003 HS Enrollment:	182	73	381	265	53	127	91	511	1,264	1,119	1,148	973	799	1,563	1,176	1,384	206	798	409	1,062
Actual Target Pop. Grad Rate:	90%	72%	70%	71%	65%	31%	32%	59%	58%	55%	55%	52%	42%	43%	37%	42%	41%	30%	43%	26%
Expected Target Pop. Grad Rate:	52%	55%	55%	57%	53%	21%	22%	49%	51%	48%	49%	48%	44%	47%	41%	49%	51%	40%	53%	43%

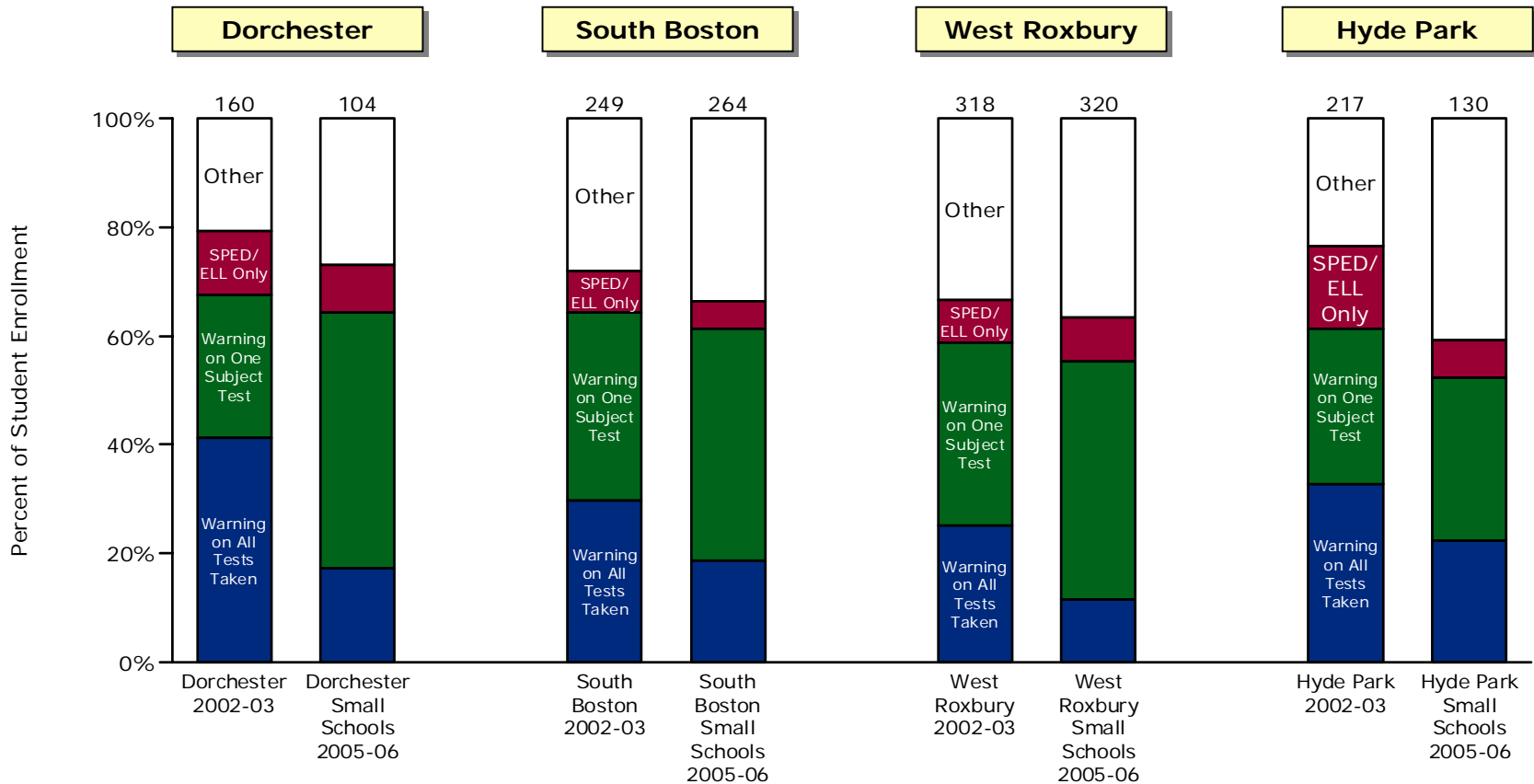
Note: Actual graduation rates are calculated after tagging a student to a school on 06/01/2003; (P) denotes Pilot School
Source: BPS Internal Data

Performance and Resources of the “First Chance” System

Small Schools Have Maintained Similar Target Populations to the Large High Schools They Replaced

- Lower proportions of “Warning on All Tests Taken” partially reflect overall district progress from 2002-03 to 2005-06

Middle School MCAS Scores for Population of Large Comprehensive Schools in 2002-03 vs. Population of Restructured Small Schools in 2005-06

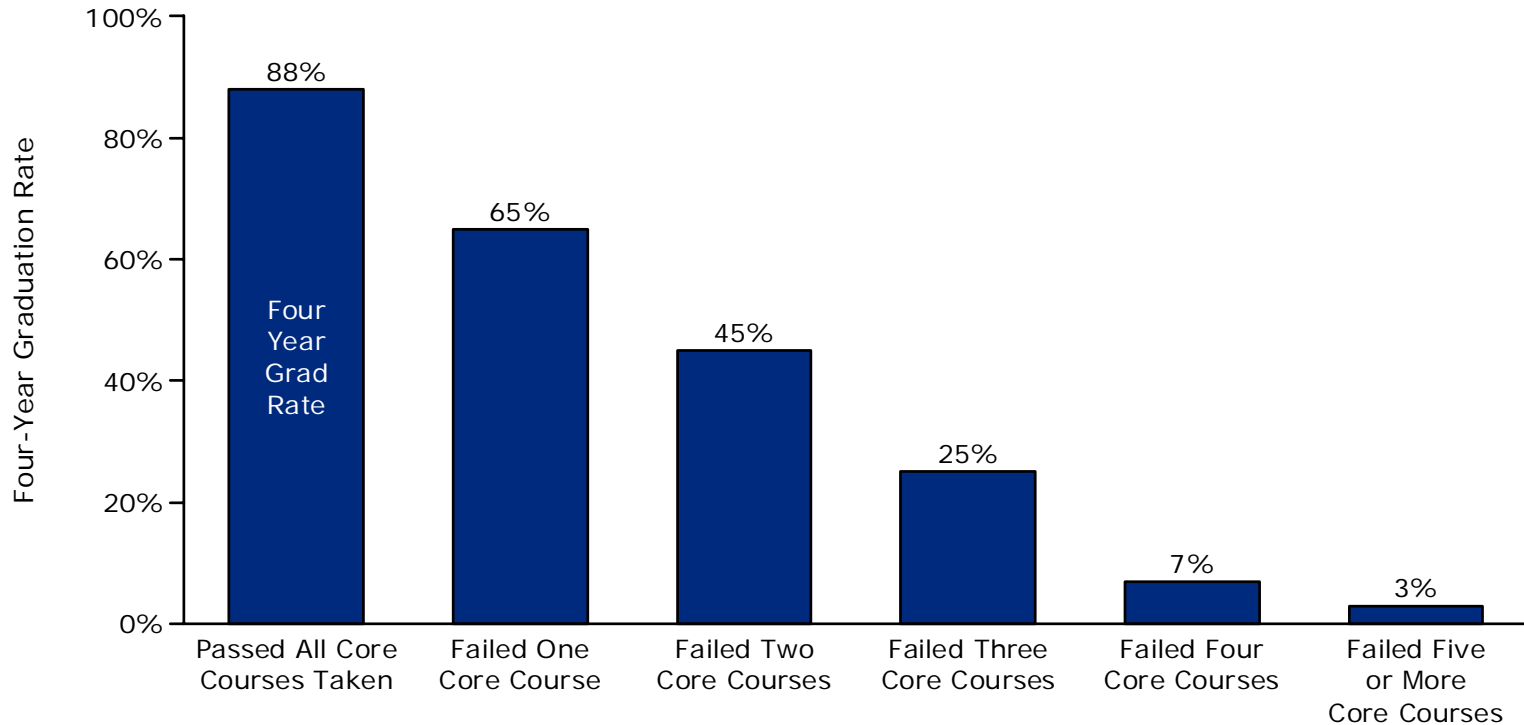


Note: Test results are that of the middle school MCAS. Data reflects population of first-time 9th graders
 Source: BPS Internal Data

Performance and Resources of the “First Chance” System

Course Failures in the First Year Are a Strong Predictor of Ultimate Student Outcomes

Student Outcomes by Course Performance in First High School Year, Class of 2004 Cohort

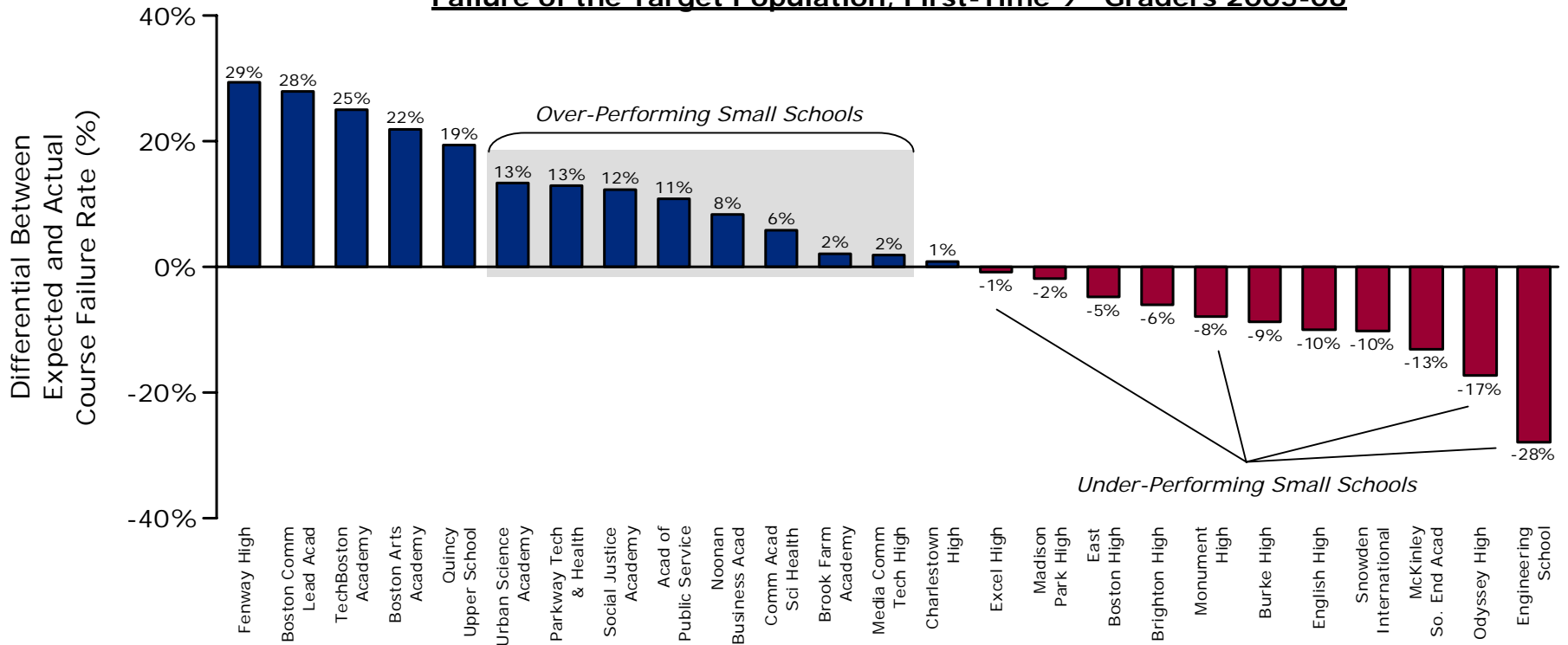


Percent of Cohort	57%	15%	9%	7%	9%	4%
6 Yr Grad Rate	91%	72%	56%	41%	21%	9%

Performance and Resources of the “First Chance” System

Course Performance Trends for Recent 9th Graders Show that Many Small Schools Are Over-Performers

Over- and Under-Performance Using First HS Year Multiple Course Failure of the Target Population, First-Time 9th Graders 2005-06



1st Time 9th Graders in Target Population:	27	57	52	31	26	45	50	26	37	39	28	47	61	222	50	298	227	192	66	137	230	92	34	59	23
Expected Multiple Course Failure:	37%	39%	38%	35%	42%	40%	39%	43%	41%	42%	38%	36%	38%	37%	41%	40%	37%	39%	41%	41%	39%	41%	49%	42%	42%
Actual Multiple Course Failure:	7%	11%	13%	13%	23%	27%	26%	31%	30%	33%	32%	34%	36%	37%	42%	42%	42%	45%	49%	50%	49%	51%	62%	59%	70%

Note: Excludes schools with sample size less than 20. Excludes New Mission due to unavailable data.

Excludes Boston International due to different rates of taking core courses in the first year

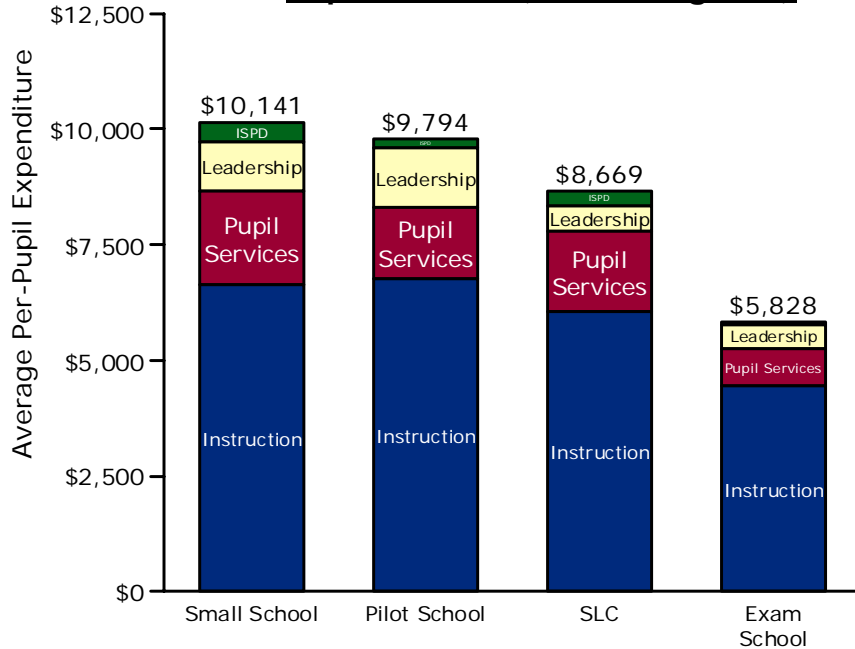
Source: BPS Internal Data

Performance and Resources of the “First Chance” System

Due to the Funding Formula and Economies of Scale, Pilot and Small Schools Receive Greater Per Pupil Allocations

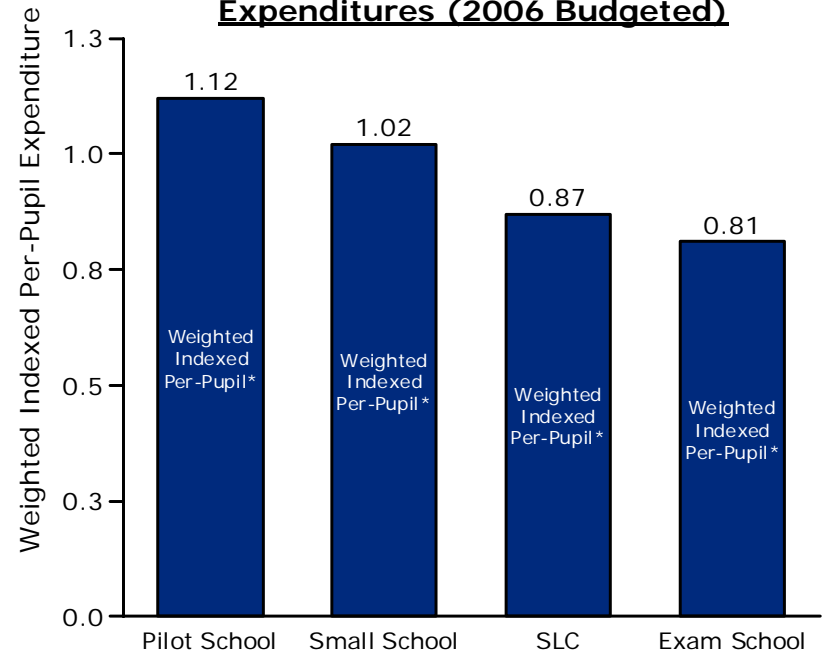
- Small schools have the higher per pupil spend in absolute dollars, but because Pilot school populations have lower concentrations of high need student groups, the Pilot weighted per pupil spend is highest

UN-Weighted Per-Pupil Expenditures (2006 Budgeted)



Total Enroll.	4,654	2,600	6,058	5,258
Avg. per School	332	325	1,212	1,753
# of Schools	14	8	5	3

WEIGHTED and Indexed Per-Pupil Expenditures (2006 Budgeted)



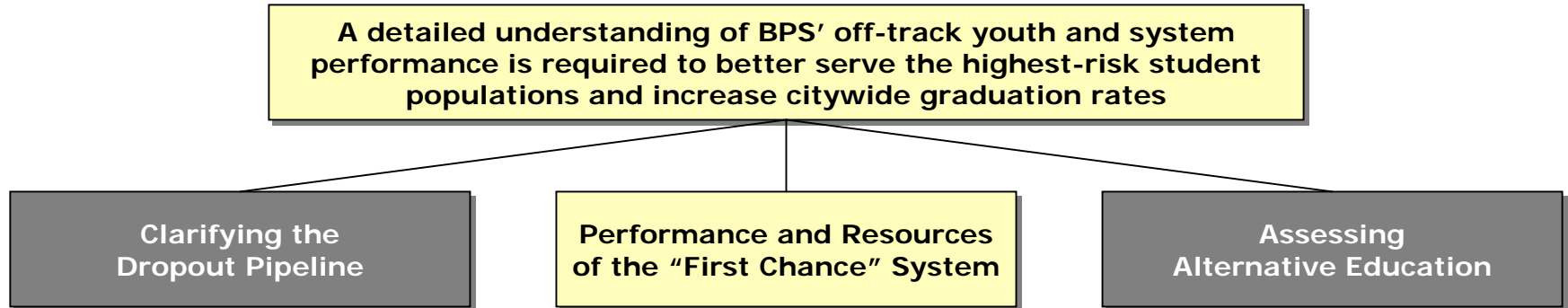
% ELL	5%	16%	21%	0%
% SPED	13%	23%	23%	2%
% SS SPED	2%	10%	11%	0%

Performance and Resources of the “First Chance” System

Yet Funding Does Not Determine Outcomes: Many Similarly-Funded Schools Have Varying Performance

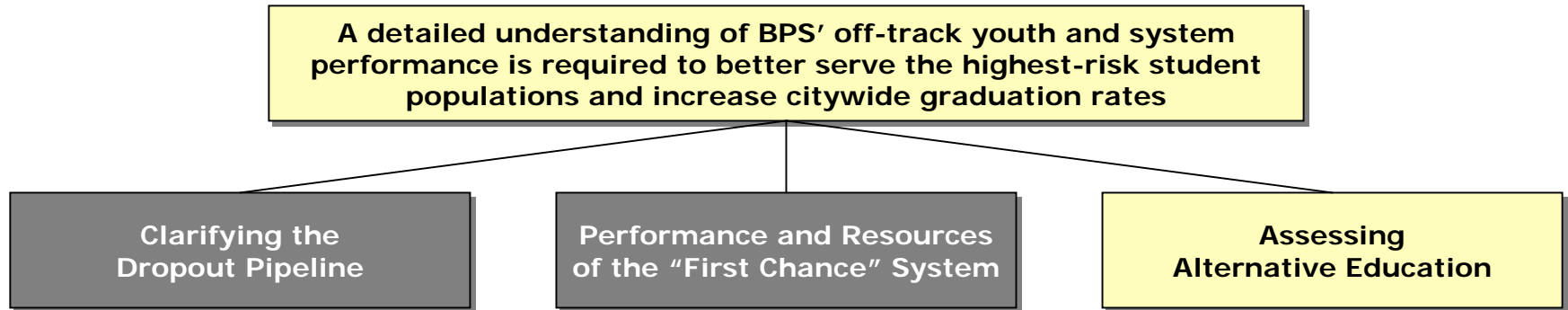
	Cost per Pupil	Weighted Indexed Cost per Pupil	Over- vs. Under-Performance
• TechBoston Academy	\$8.8K	0.99	+25%
• Snowden Int'l	\$8.9K	1.06	-10%
• Charlestown HS	\$8.8K	0.86	+1%
• English HS	\$8.7K	0.84	-10%
• Parkway Tech and Health	\$9.7K	1.01	+13%
• Odyssey HS	\$9.4K	0.98	-17%
• Academy for Public Service	\$12.5K	1.22	+11%
• Engineering HS	\$11.9K	1.10	-28%

Review of Summary Project Data



- **Many BPS high schools face high concentrations of students with weak incoming preparation levels**
- **Pilot Schools out-perform the system by the widest margin with the target population**
 - However, these schools also serve lower proportions of challenged students
- **Small Schools have maintained similar student profiles vs. the large schools they replaced, while generally exceeding their "expected" performance**
 - Results are especially strong at Dorchester, West Roxbury and Hyde Park
- **Pilot and Small Schools also receive higher per pupil allocations than larger high schools**
 - The average difference in funding is ~\$1,000 for Pilot Schools and ~\$1,500 for Small Schools (though Pilot Schools receive the highest allocations once weighted for student population)
 - However, there is no evidence that higher funding causes higher performance

Review of Summary Project Data



- **What is the current capacity of BPS' Alternative Education offerings?**
- **How do students arrive at and progress through Alternative Education?**
- **How does resource allocation vary within Alternative Education, and as compared to the rest of the system?**
- **What outcomes are achieved among Alternative Education schools and programs?**

Assessing Alternative Education

Interviews Highlight Six Key Themes for Current State of Alt Ed

Unclear organizational and management structures and oversight

- *"[Alt. Ed.] governance is complicated. Internal programs report to two people – [the Dir. of Alt. Ed.] and the Deputies. Programs are all part of different clusters with limited pertinence to [the other] traditional schools in the cluster"*

Insufficient system-wide awareness of and advocacy for Alternative Education

- *"There is no clear advocate for Alt Ed here in Boston. With no advocacy, there is no ownership, no accountability"*

Pervasive culture of low expectations

- *"'Misplaced compassion' is a huge factor – we are not setting [student] expectations high enough, we are not setting clear enough expectations"*

Limited capacity and little needs-specific portfolio rationale

- *"There is not enough information on what exists, and there are not enough quality Alternative Education seats [to support student demand]"*

Lack of rigor and differentiated instructional approaches

- *"The skills and capacity of CBO staff are different from that of BPS teachers; plus CBOs have less ability to pay like BPS, and therefore struggle to attract instructional talent"*

Lack of clear funding rationale, plus lower overall funding

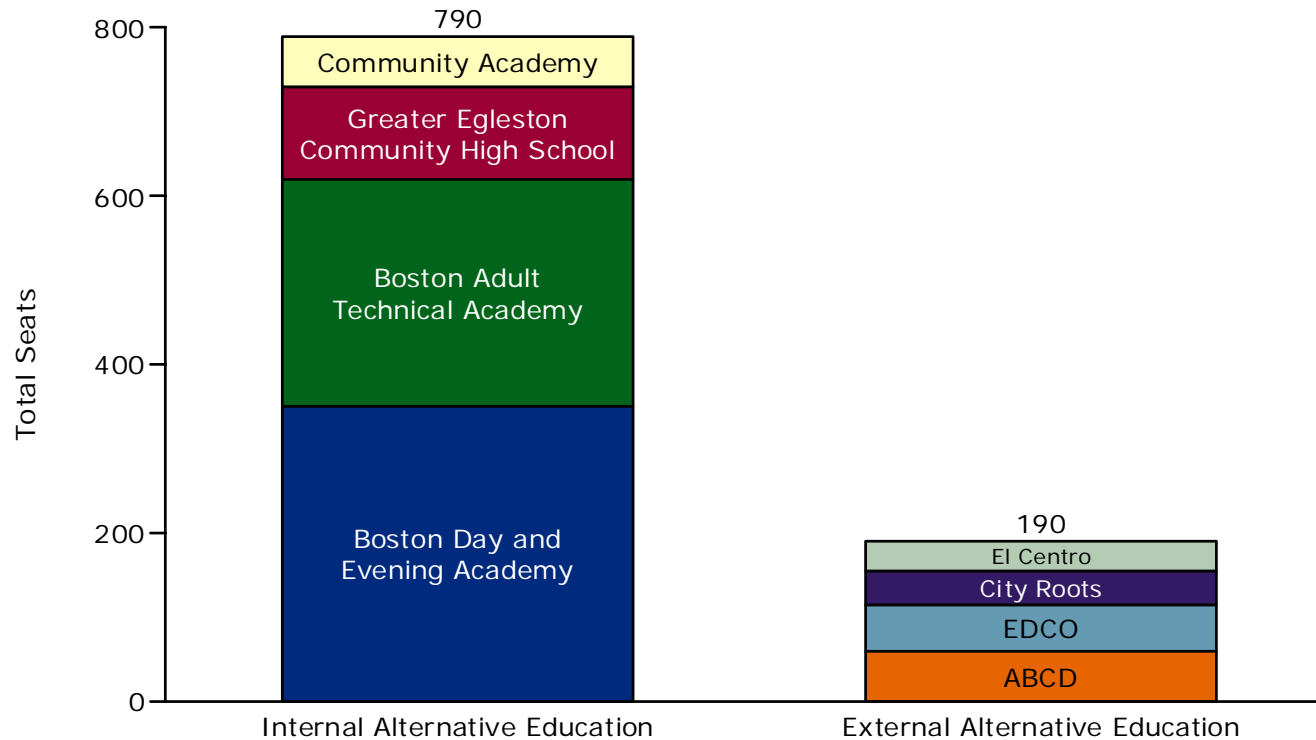
- *"Without a financial framework, [BPS] takes a band-aid approach – each program is treated individually"*

Assessing Alternative Education

Only ~1,000 Diploma-Granting Seats Exist Today, Which Are Highly Concentrated in a Few Large Programs

- While Alternative Education programs have nearly 1,900 seats, only 978 are in diploma-granting schools and programs

Number of Seats in Diploma-Granting Alt Ed Programs



Assessing Alternative Education

The Quantity of Alt Ed Seats Falls Far Short of Potential Need Across Key Segments of Students

- At the end of 2005-06, there were ~4,500 students enrolled across the five segments
 - These five groups together accounted for 92% of Alternative Education enrollment over the course of 2005-06

Continuum of Age vs. Proximity to Graduation

Younger, Far from Graduation <i>16 or 17 years old; 2 or More Years Off-Track for Graduation</i>	Older, Far from Graduation <i>18 or Older; 2 or More Years From Graduation</i>	Older, Close to Graduation <i>18 or Older; Graduation Possible Within 1 Year</i>
<ul style="list-style-type: none"> • 1,323 total students <ul style="list-style-type: none"> - 1,046 students excluding substantially separate SPED (21% of total) 	<ul style="list-style-type: none"> • 1,171 total students <ul style="list-style-type: none"> - 937 students excluding substantially separate SPED (20% of total) 	<ul style="list-style-type: none"> • 913 total students <ul style="list-style-type: none"> - 704 students excluding substantially separate SPED (23% of total)

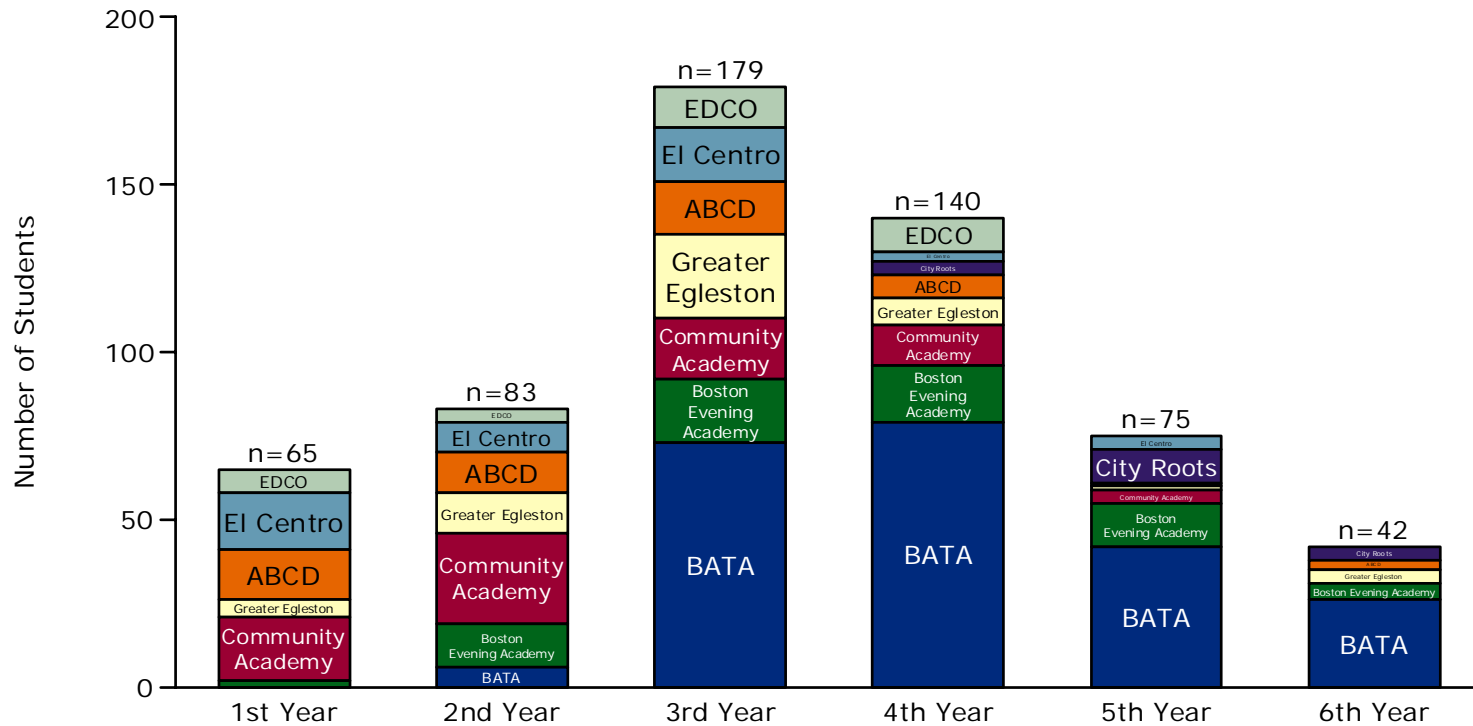
Additional Factors Defining Potential Need

<div data-bbox="357 963 923 1082" style="border: 1px solid black; padding: 5px; text-align: center;"> Overage Late Entrant ELL Students </div> <ul style="list-style-type: none"> • 462 students enter annually <ul style="list-style-type: none"> - Substantially separate SPED designations are highly rare in this category 	<div data-bbox="980 963 1544 1082" style="border: 1px solid black; padding: 5px; text-align: center;"> Returning Dropouts </div> <ul style="list-style-type: none"> • 679 total students <ul style="list-style-type: none"> - 598 students excluding substantially separate SPED (estimated 12% of total) 	<ul style="list-style-type: none"> • 38% Young & Far • 29% Old & Far • 9% Old & Close • 24% No Segment (mainly too young)
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Assessing Alternative Education

Alternative Education Programs Do Not Receive the Majority of Students Until Their 3rd of High School or Later

New Entrants to Alternative Education Programs
Over Six Years of High School, Class of 2004 Cohort

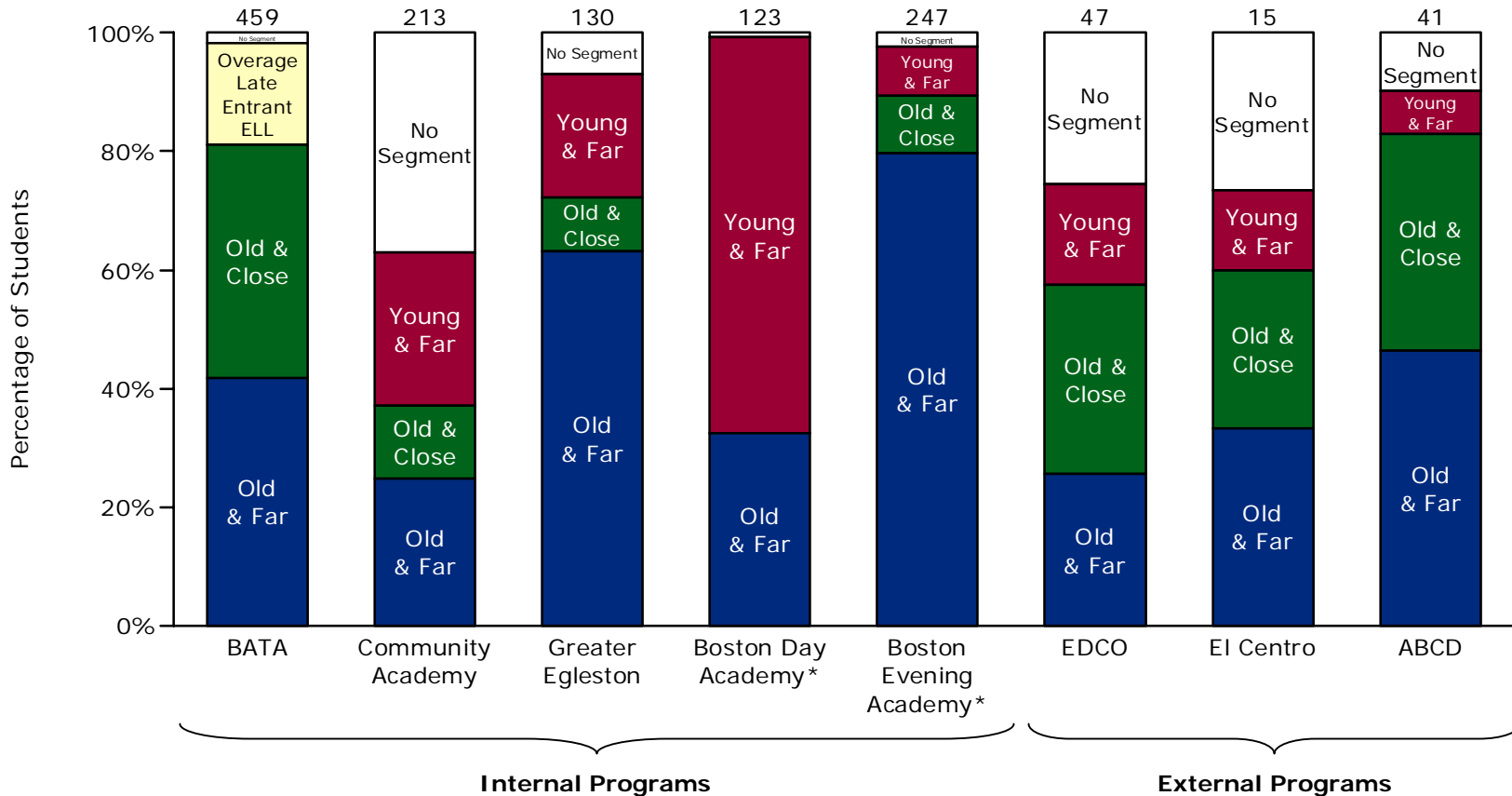


Note: Enrollment count from the last month of the school year (June 1)
Source: BPS Internal Data

Assessing Alternative Education

Most Alternative Education Programs Serve a Range of Highly Challenged Students that Cut Across Segments

Enrollment in Internal and External Alternative Education Programs by Segment, 2005-06

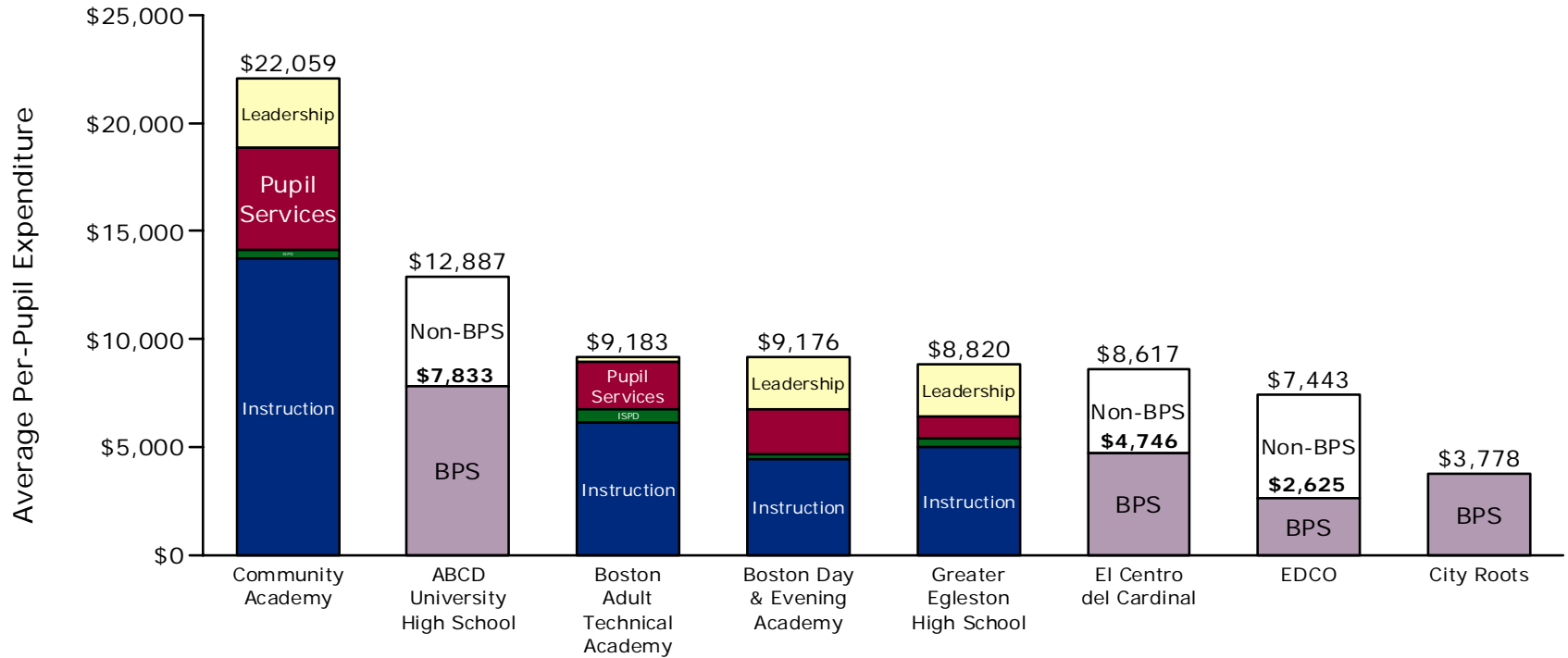


*Old & Far segment may be overestimated due to incomplete course reporting at BDEA (competencies rather than grades)
 Note: Enrollment figures for Internal programs include all students appearing in each school at any point during the 2005-06 school year. External Alternative Education data is incomplete due to data recording inconsistencies. Excludes City Roots
 Source: BPS Internal Data

Assessing Alternative Education

With No Formulaic Allocation, Per-Pupil Spend Varies Widely Among Internal and External Schools and Programs

BPS Alternative Education School Per-Pupil Expenditures: School-Based Instruction & Administration Costs – ERS Allocated (2006 Budgeted)



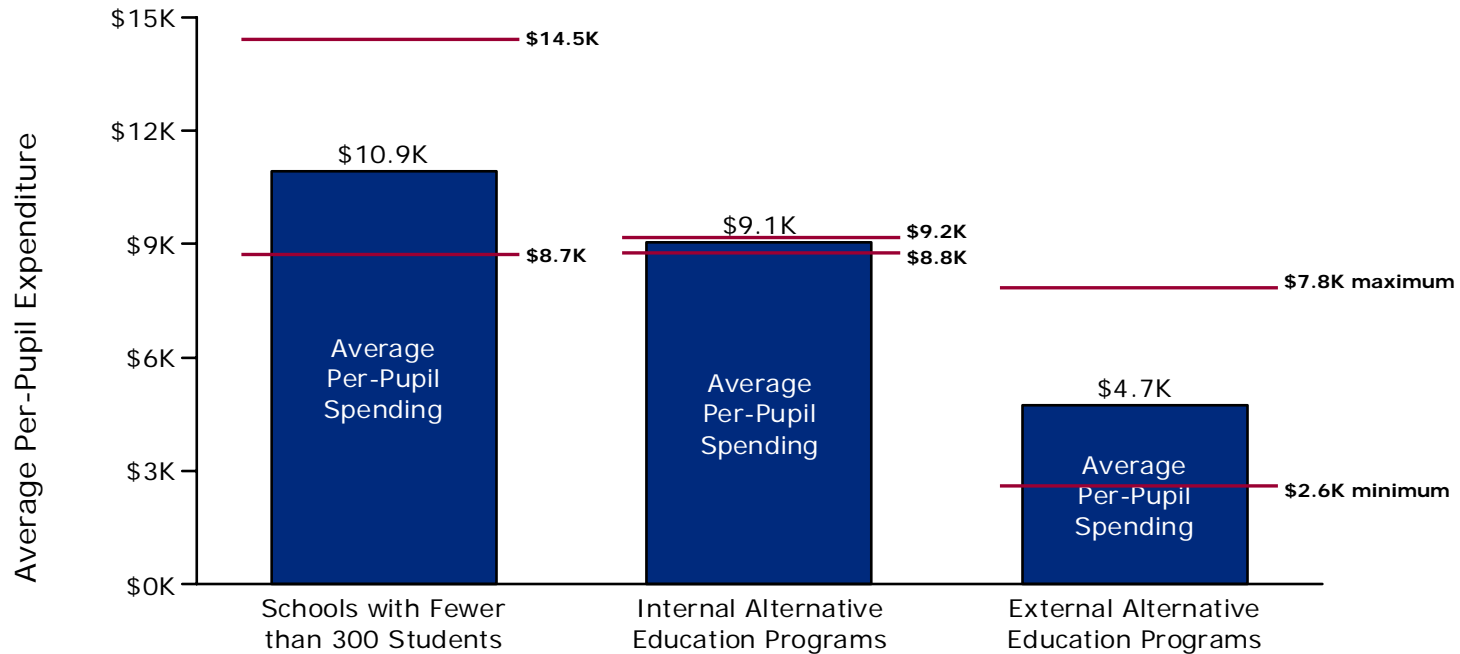
6-Yr. Grad Enrollment*	20%	34-37%	7%	23%	26%	18-38%	44-54%	70-74%
Per-Pupil BPS Cost	\$22,059	\$7,833	\$9,183	\$9,176	\$8,820	\$4,746	\$2,625	\$3,778

Note: ISPD = Instructional Support and Professional Development; Enrollment for Internal Programs (Community Academy, BATA, BDEA, Greater Egleston) as of 12/15/05; Enrollment for external programs (ABCD, EDCO, City Roots, El Centro) is from the 2005-2006 school year
Source: BPS Internal Data; ERS 2006 Financial Model; External Alternative Education Program budgets

Assessing Alternative Education

Alternative Ed Programs Receive Lower Per-Pupil Funding on Average than Other Small Schools System-Wide

BPS Per-Pupil Expenditures for Smaller Schools: School-Based Instruction & Administration Costs – ERS Allocated (2006 Budgeted)



Number of Schools	7	3	4
Avg. # of Students	247	234	43

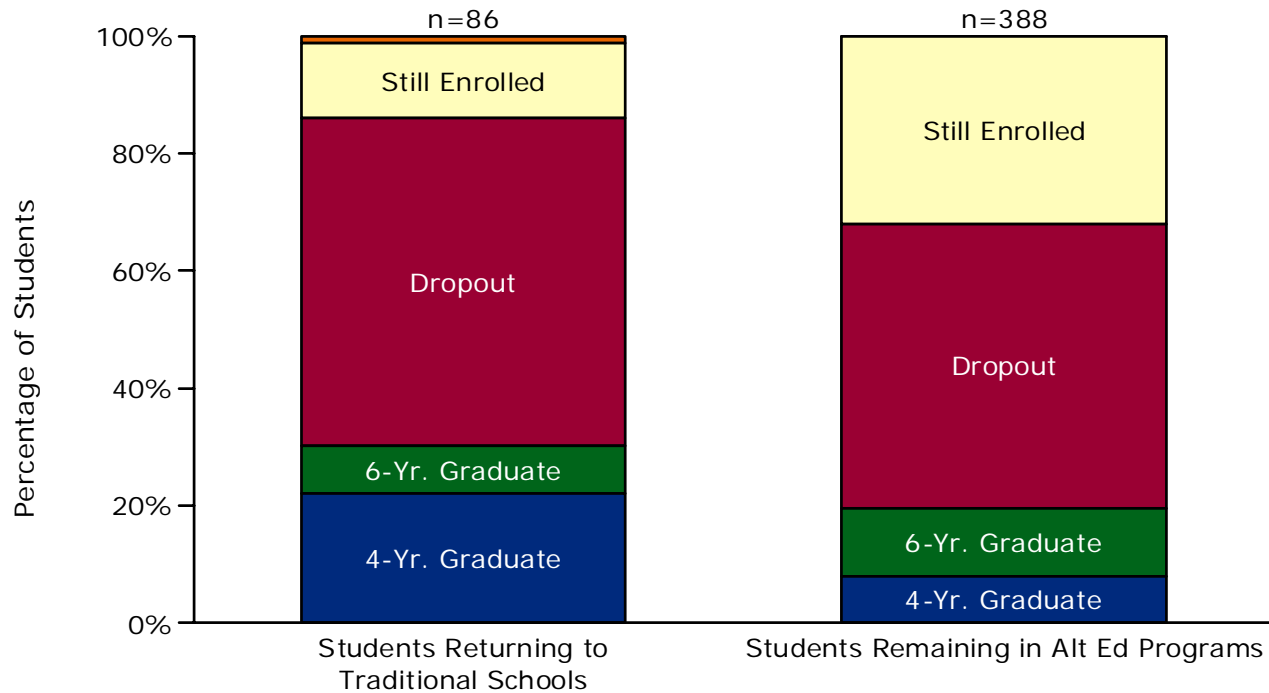
Note: Bar for "Schools with Fewer than 300 Students" excludes Alternative Education Programs; Bar for "Internal Alternative Education Programs" excludes Community Academy

Source: BPS Internal Data; ERS 2006 Financial Model; External Alternative Education Program budgets

Assessing Alternative Education

Reflecting a Highly Challenged Population and Lack of Historical Focus, Alt Ed Schools Have Low Overall Performance

Six Year Outcomes For Alternative Education Students, Class of 2004 Cohort

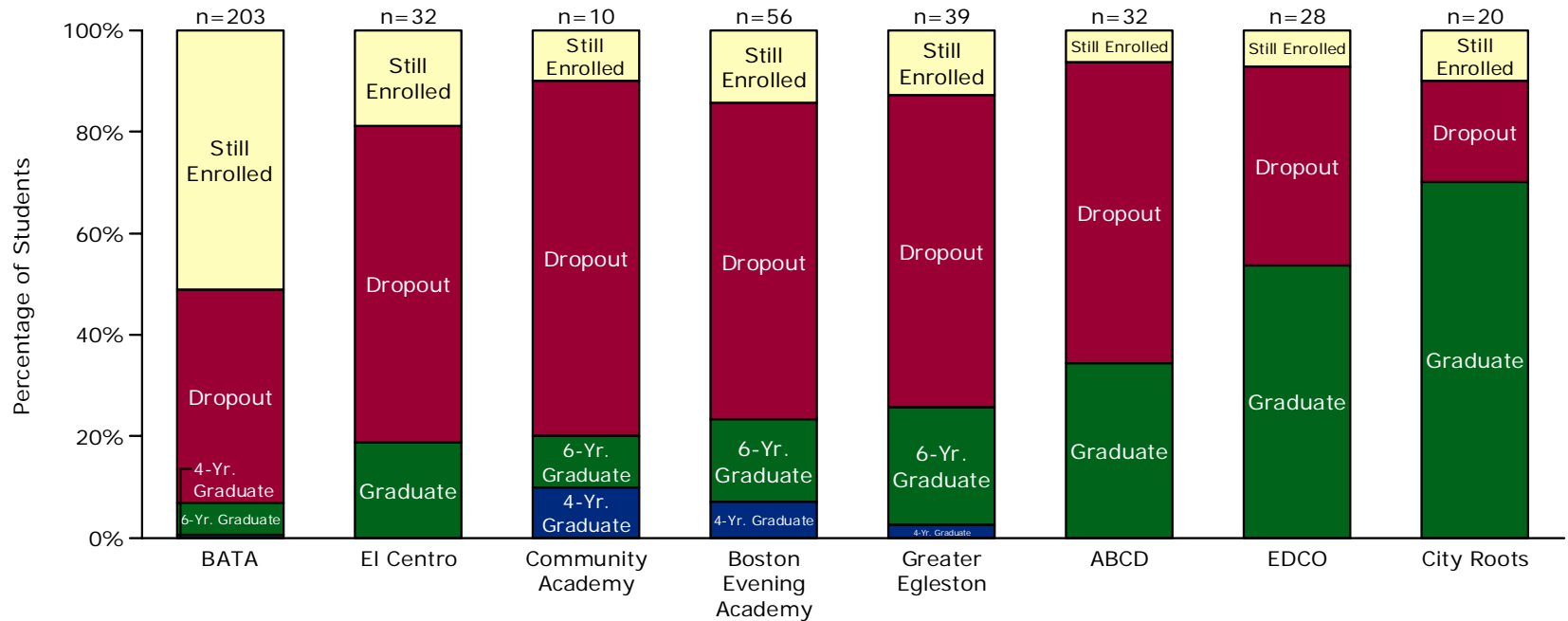


4-Year Grad Rate	22%	8%
6-Year Grad Rate	30%	20%-22%

Assessing Alternative Education

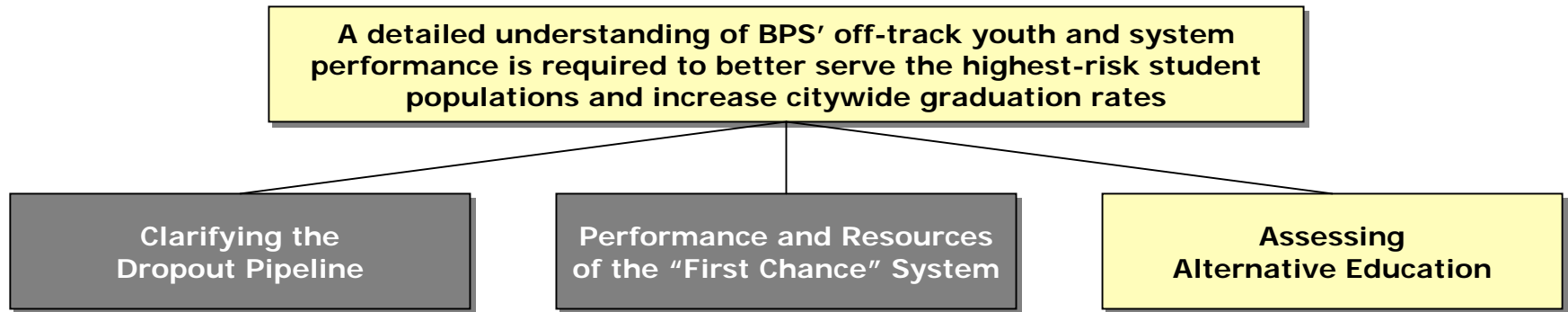
Final Outcomes Vary Significantly Among Different Alternative Education Schools and Programs

Six Year Outcomes For Alternative Education Students by School or Program at Time of Outcome, Class of 2004 Cohort



4-Yr. Grad Rate:	0%	10%	7%	3%	34-37%	44-54%	70%-74%
6-Yr. Grad Rate:	7%	18-38%	20%	23%	26%	34-37%	70%-74%

Review of Summary Project Data



- **BPS has ~1,000 seats existing in diploma-granting Alternative Education programs**
- **By contrast, there are ~4,500 students in the segments that make up the potential “need” for Alternative Education**
- **Alternative Education today faces a series of long-standing challenges, including a lack of clear expectations, fragmented management, inconsistent funding, and an unclear portfolio rationale**
 - Per pupil funding levels are widely variable, but generally lower than what is allocated to other small schools in the district
- **Overall performance of existing Alternative Education schools is weak**
 - The six-year graduation rate is only 20%, though this is strongly affected by weak performance at BATA (the largest single program)
 - External programs feature graduation rates as high as 70%, but operate at extremely small scale