

NYC Secondary Reform Selected Analysis



New York City Department of Education

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Secondary Reform Plan

- **Situation Assessment (Selected Analysis)**
- Targets and Proposals for Secondary Reform

Secondary Reform Plan – Selected Analysis

Key Issues

Situation Assessment

- Who are the students who fall behind, and why do they do so?
- How do they progress through the system?
- What are their outcomes and how do they differ by programs?

Setting the Goals, Objectives, and Focus For the Secondary Reform Plan

- What are our graduation goals?
- What are the foundational elements and levers of change?
- Where are we focusing our efforts?

Preventative and Recuperative Powers for Low-Level Students

- Can we identify 'beat the odds' schools at preventing low-level students from becoming overage / under-credited?
- What do those schools have in common?
- Can we draw broader understanding from them?

Elements of School Characteristics and Their Impact on Student Outcomes

- What elements of school design have an impact on graduation outcomes and how powerful are they?
- Does school design differentially impact certain students?
- Can we use this knowledge to inform actionable system policy choices about school design?

System Design and Its Impact on Graduation Rates

- How does individual school design relate to overall system and system design?
- What is the expected impact of different actions and how confident are we in their outcomes?



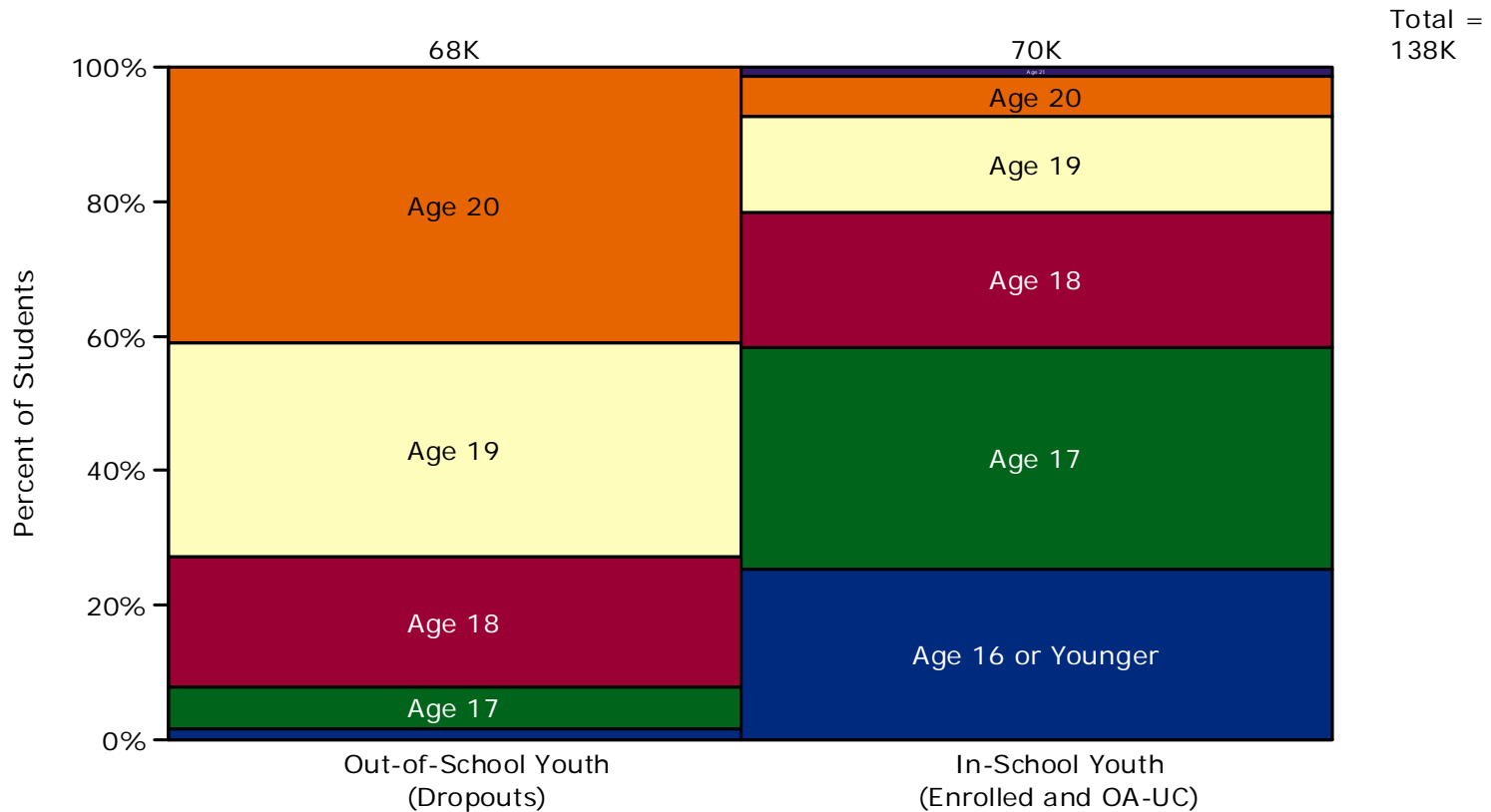
Create a Portfolio of Schools

Secondary School Situation Assessment

Nearly 140K NYC Youth Age 16-21 Have Dropped Out or Are Significantly Off-Track for Graduation

- Including in- and out-of-school youth, there are approximately 138K overage and under-credited youth in New York City at any given point in time

In- and Out-of-School Overage and Under-Credited Youth, by Age on June 2005



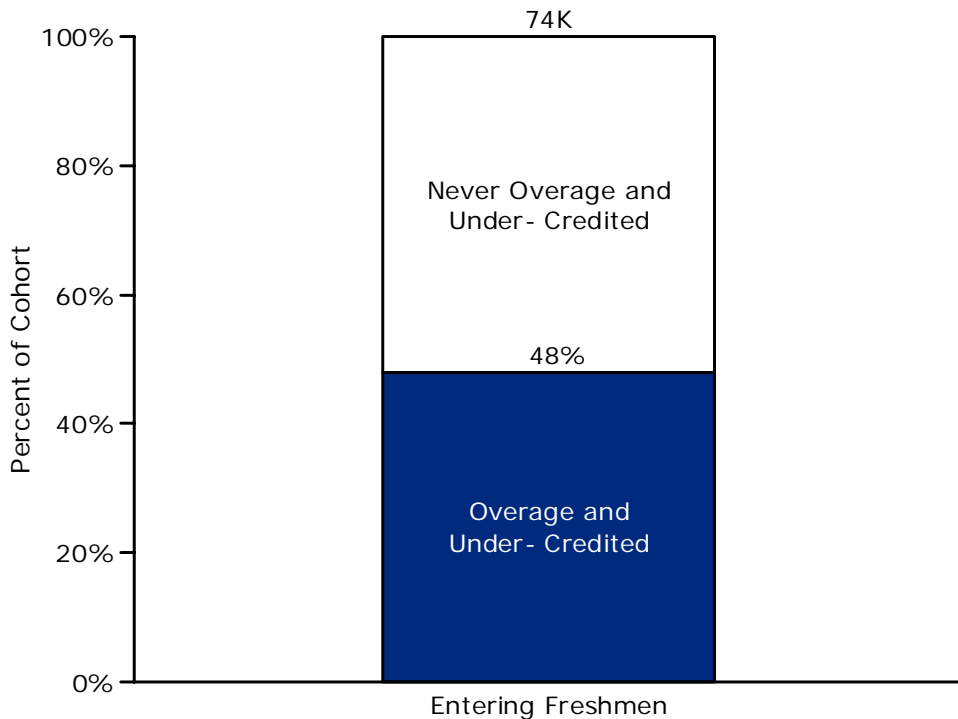
Note: Includes District 75 students. Students are counted as out-of-school youth only if they are dropouts (as opposed to other discharges)
 Source: ATS Data

Secondary School Situation Assessment

Approximately Half of All Entering Freshmen Become Overage and Under-Credited During High School

- Overage and under-credited students are at least two years off-track relative to expected age and credit accumulation toward earning a diploma

Percent of Students who Become Overage and Under-Credited in the Class of 2003 Cohort



Definition of Overage and Under-Credited

<u>Age</u>	<u>Credits</u>
Age 16	Fewer than 11 Credits
Age 17	Fewer than 22 Credits
Age 18	Fewer than 33 Credits
Age 19-21	Fewer than 44 Credits

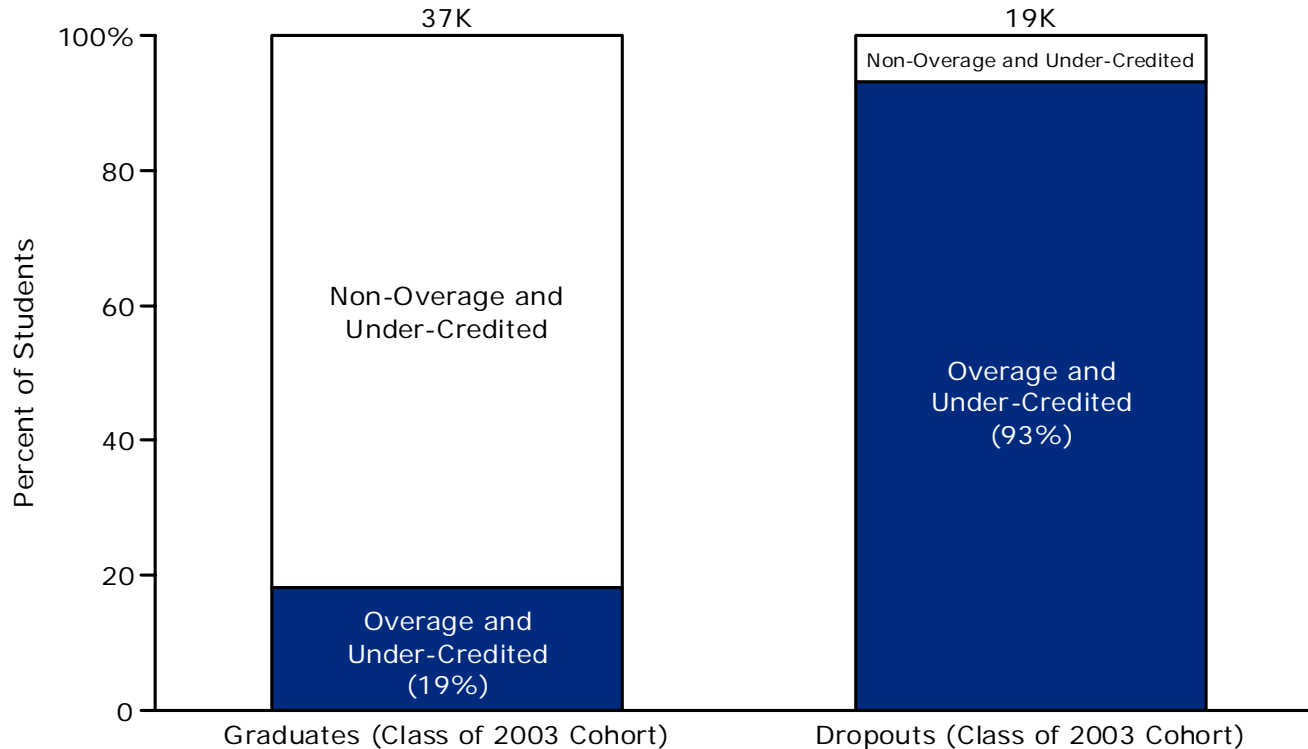
Note: Excludes District 75 students; Includes all students who were OA-UC at any point in their high school career

Secondary School Situation Assessment

Making Overage and Under-Credited Students the Core Target of Efforts to Improve the Graduation Rate Makes Sense

- The dropout population *is* the overage and under-credited population, just at different points in time
- By contrast, only 19% of graduates were once overage and under-credited in high school

Graduates and Dropouts by Overage and Under-Credited Status, Class of 2003 Cohort



Note: Excludes District 75 Students

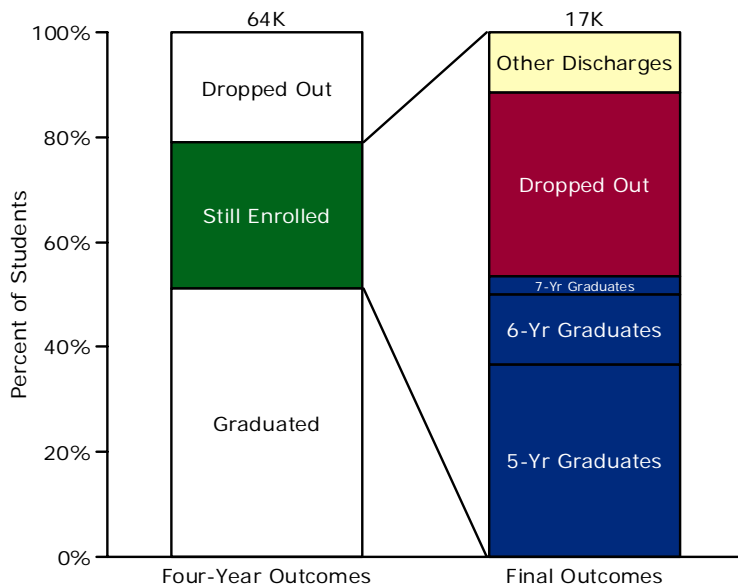
Source: ATS Data

Secondary School Situation Assessment

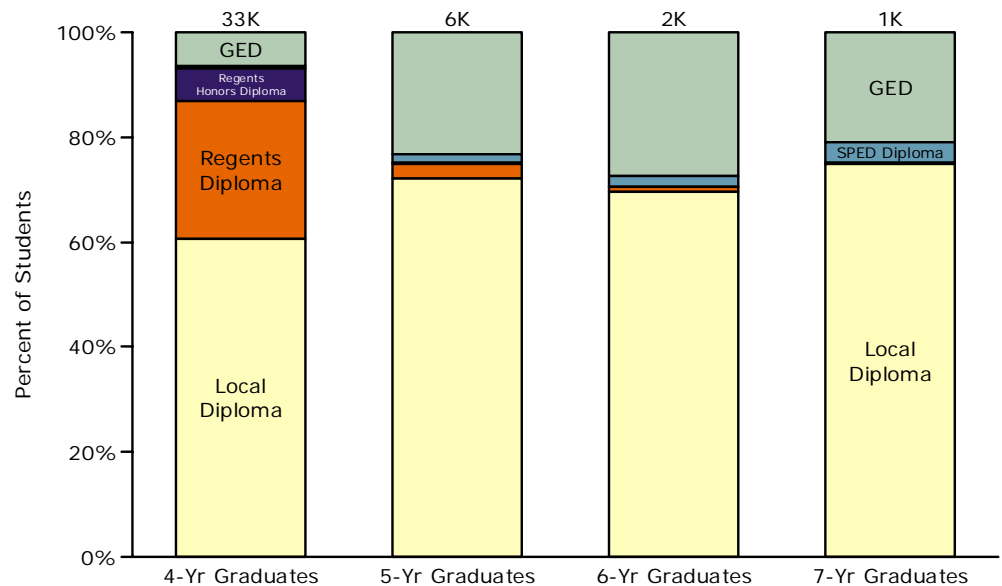
60% of Students Who Remain Enrolled Beyond 4 Years Receive Credentials, Raising the Final Graduation Rate to 67%

- However, the mix of degrees changes significantly:
 - GED accounts for 24% delayed graduates
 - Regents diplomas represent only 2% of delayed graduates

Final Outcomes for Class of 2001 Cohort



Type of Degree Earned by Years to Graduation, Class of 2001 Cohort



Percent Graduating	51%	60%
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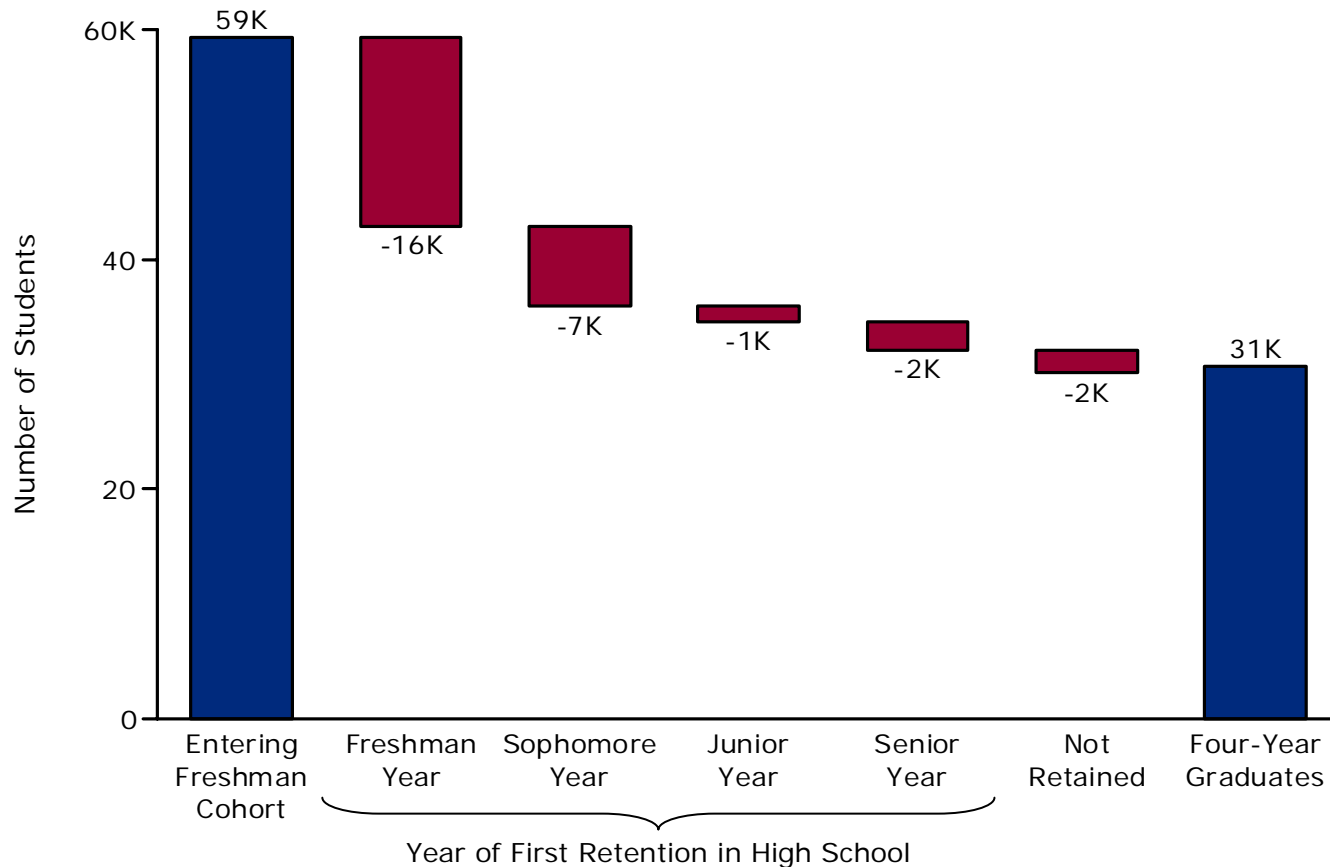
* Mix of diplomas will shift beginning with Class of 2005 due to change in state regulations defining criteria for Local vs. Regents Diploma
 Note: Graduation rate excludes students discharged with confirmed admission to non-DOE schools or programs
 Source: DAA Class of 2001 Follow-Up Longitudinal Report

Secondary School Situation Assessment

“Leaky Faucet” of Student Progression Is Most Problematic in Early Years of High School

- 57% of students who fail to graduate in four years are retained in their freshman year, and 85% are retained in the first two years of high school

Progression of Class of 2003 Cohort to Four-Year Graduation

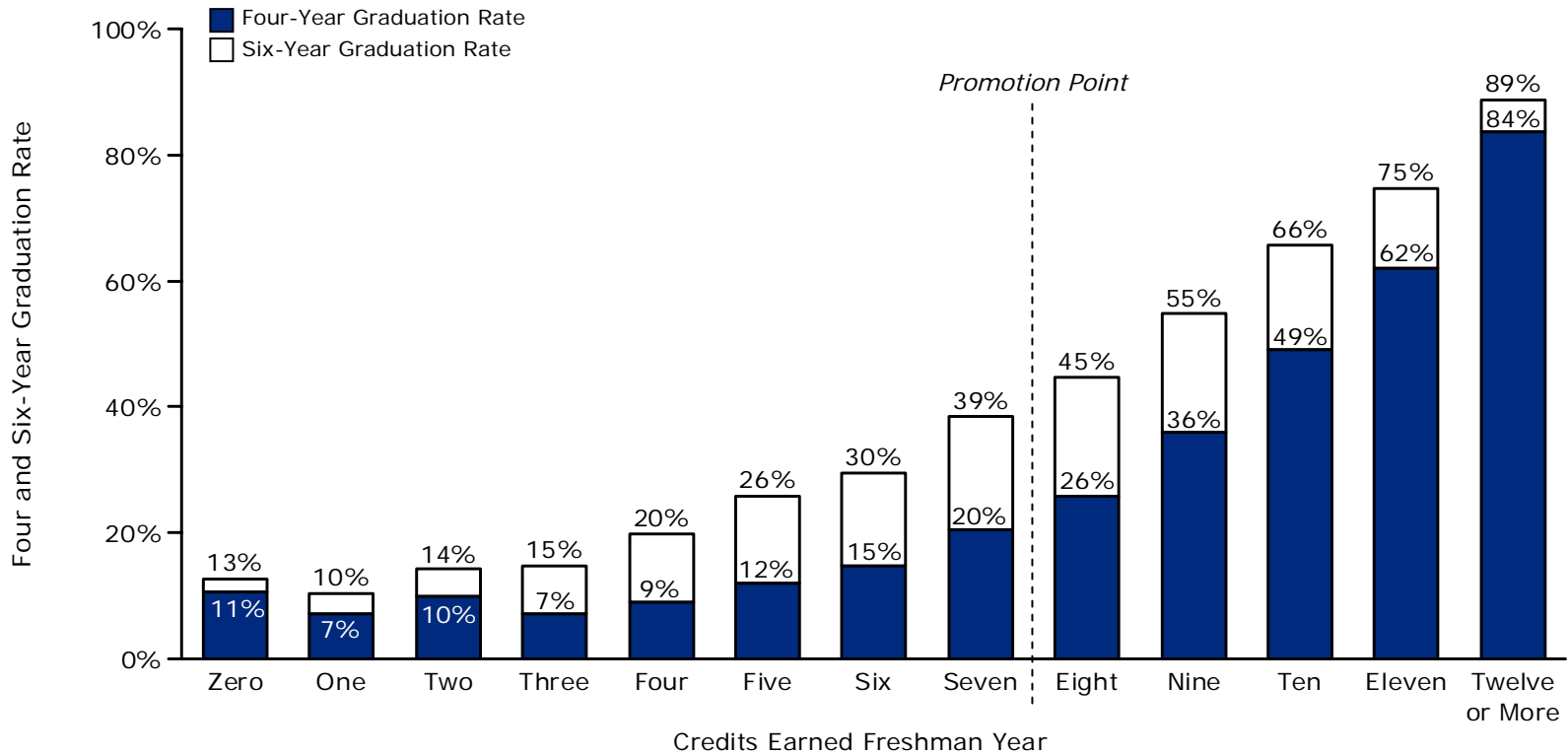


Note: Excludes students who end up discharged with confirmed admission to non-DOE schools or programs

Secondary School Situation Assessment

Credit Accumulation in Freshman Year Is Highly Predictive of Four- and Six-Year Graduation Outcomes

Four- and Six-Year Graduation Rate by Credits Earned Freshman Year, Class of 2003 Cohort



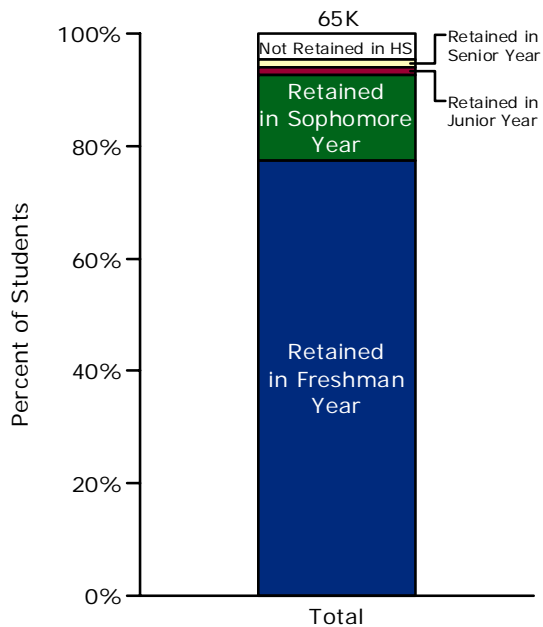
Note: Excludes District 75 students

Secondary School Situation Assessment

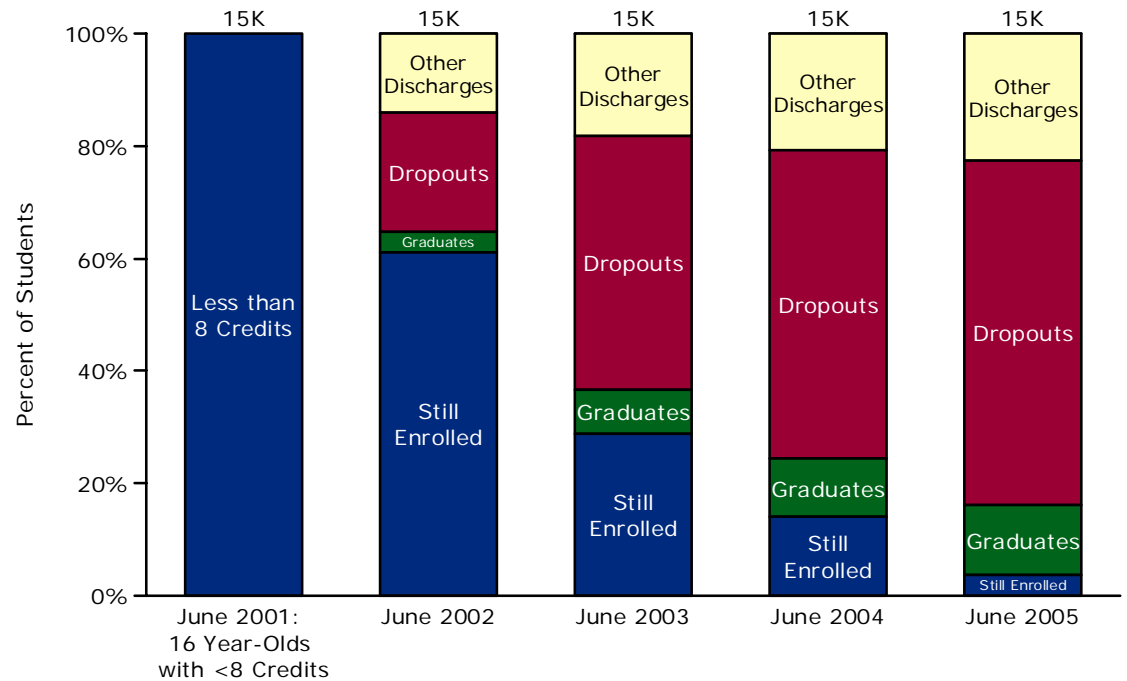
Overage and Under-Credited Students Fall Behind Early, and Most Leave High School Rapidly Once Becoming Off-Track

- 78% of OA-UC students were retained in freshman year; 93% were retained either as freshmen or sophomores
- 84% of students who are 16 years old with fewer than eight credits end up leaving the system

Year in Which Overage and Under-Credited Students Were First Retained



Progression of Age 16 – Less than 8 Credit Students, June 2001-05



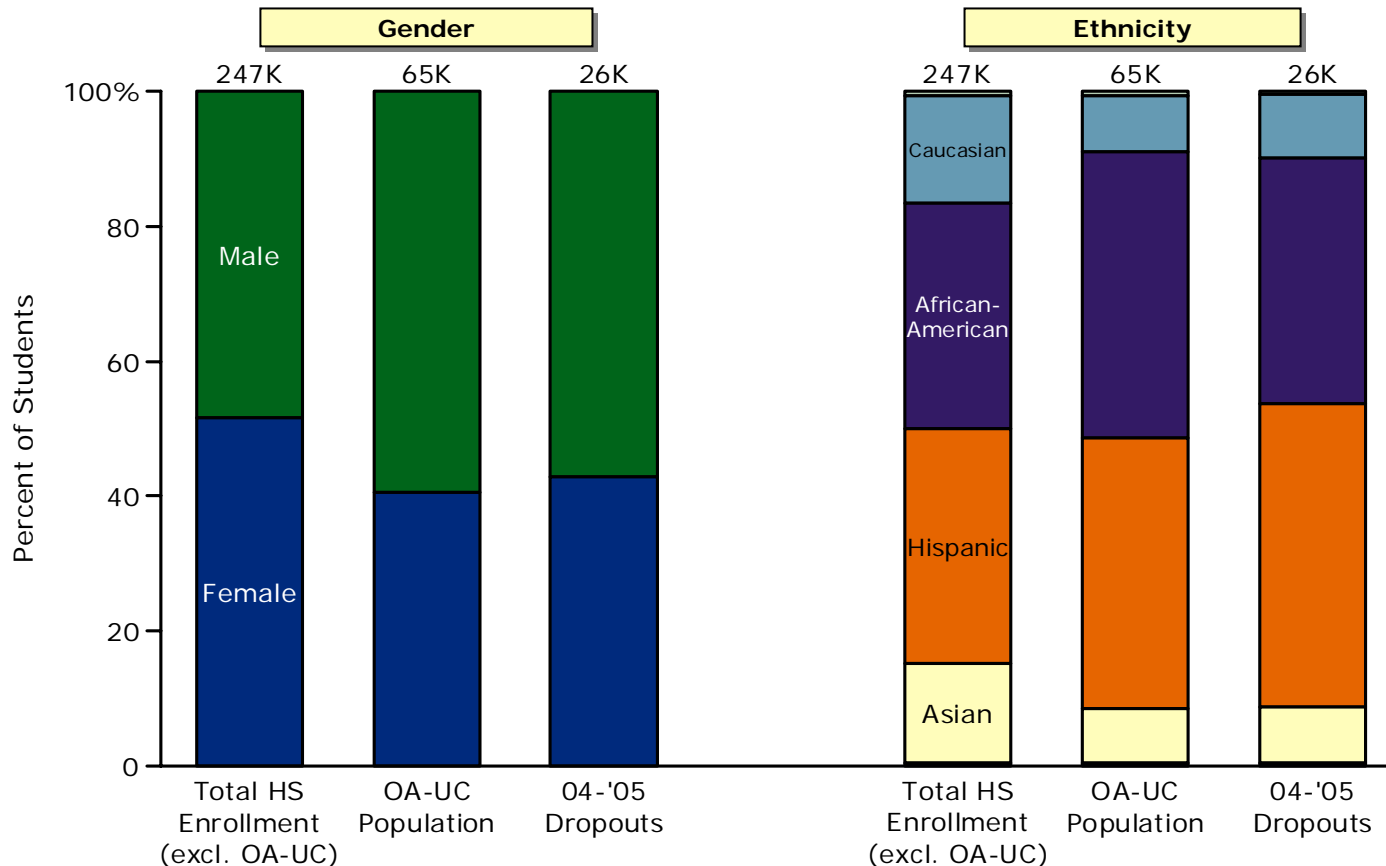
Cumulative Attrition Rate	35%	63%	76%	84%
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Sizing the Challenge

Gender and Ethnic Makeup of Overage and Under-Credited Population

- There are 11% more males and 14% more African Americans and Hispanics in the OA-UC population than overall. This overlaps with other factors (academic skills, representation in special education).

Demographics of Overage and Under-Credited Students vs. Total HS Enrollment and HS Dropouts, June 2005



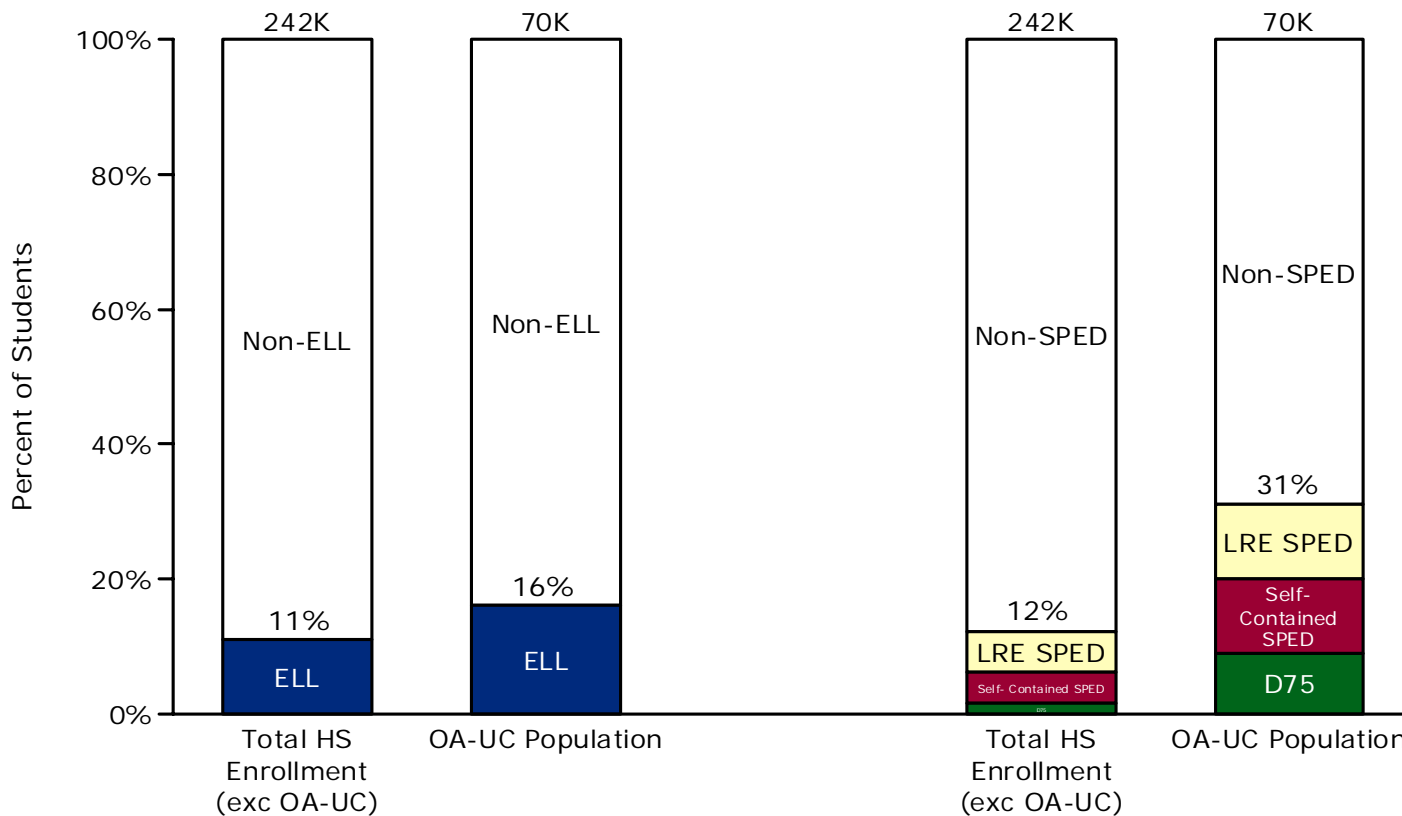
Note: Excludes District 75 students

Sizing the Challenge

Concentration of Special Needs Students Is More Acute in the Overage and Under-Credited Population

- Differences between OA-UC and the general population are much wider for SPED than ELL
 - 31% of overage and under-credited students have some SPED designation, versus only 12% of the remainder of the student population

Demographics of Overage and Under-Credited Students vs. Total HS Enrollment, June 2005



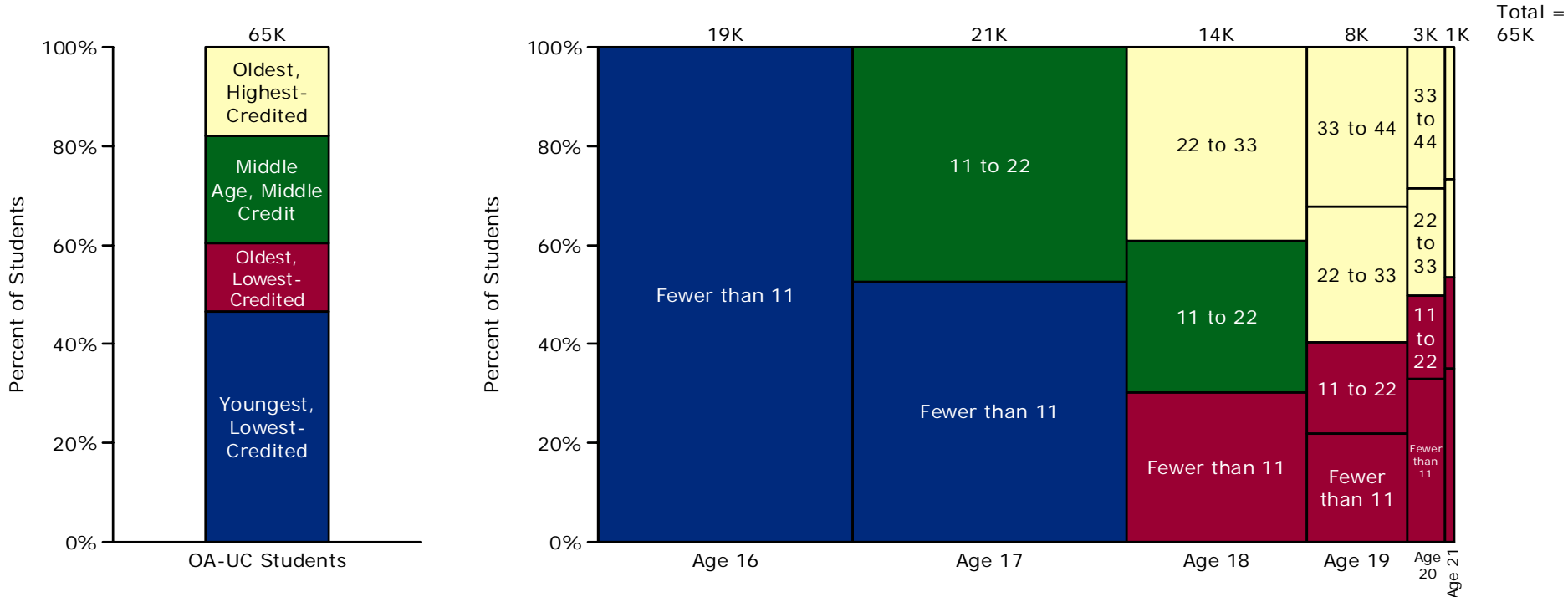
Note: Self-Contained SPED contains only those students who are self-contained and enrolled outside of District 75; About 2K OA-UC students are both ELL and SPED

Sizing the Challenge

Majority of OA-UC Students Have Completed Less than One-Quarter of Credits Required for Graduation

- 57% of overage and under-credited students have fewer than eleven credits
 - Nearly 7,000 enrolled students are at least 18 years old with fewer than eleven credits (11% of all overage / under-credited students)

Overage and Under-Credited Students by Age and Credit Attainment, June 2005



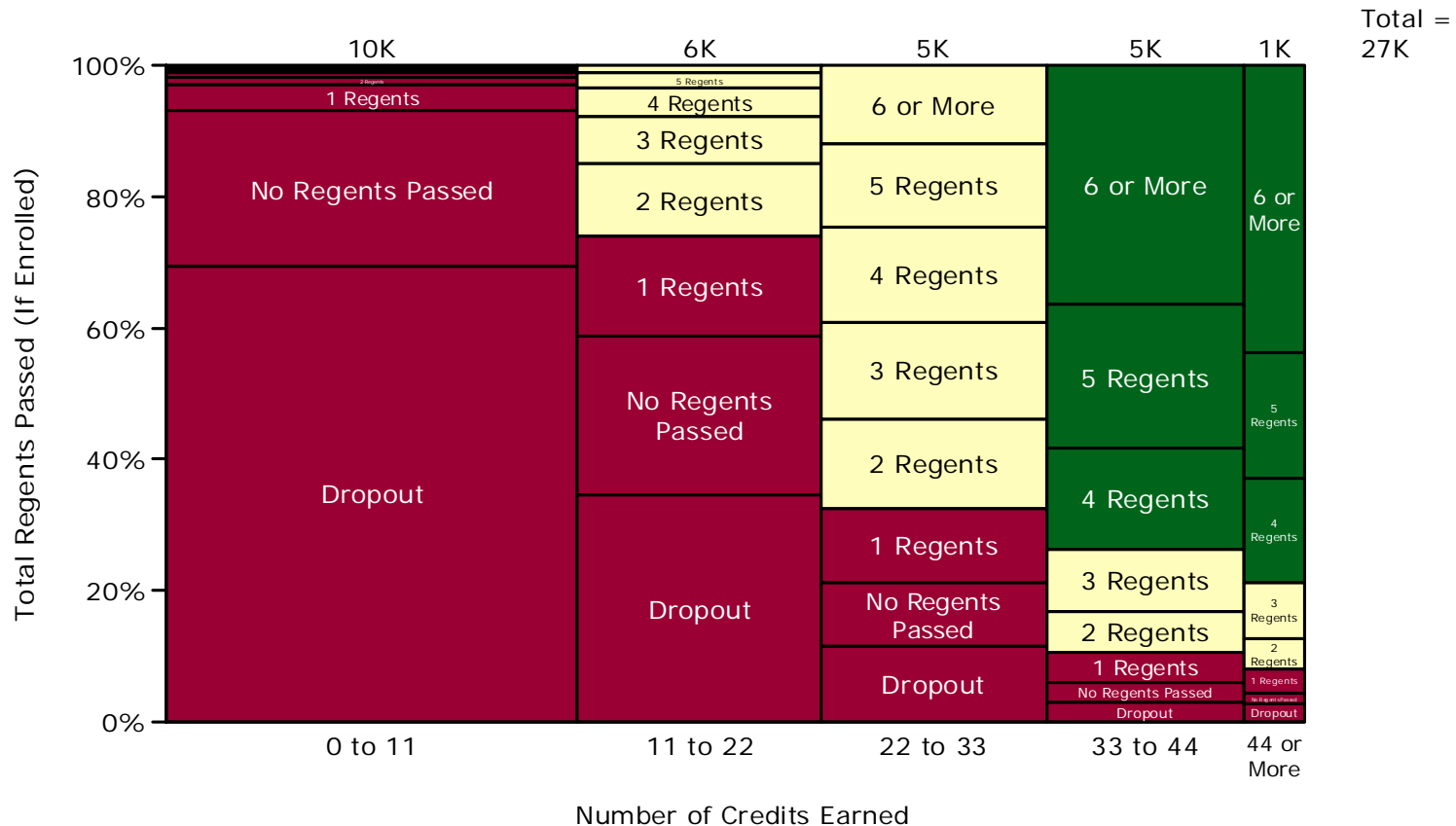
Note: Excludes District 75 students

Sizing the Challenge

Majority of Students Who Fail to Graduate in Four Years Are Far from Meeting Graduation Requirements

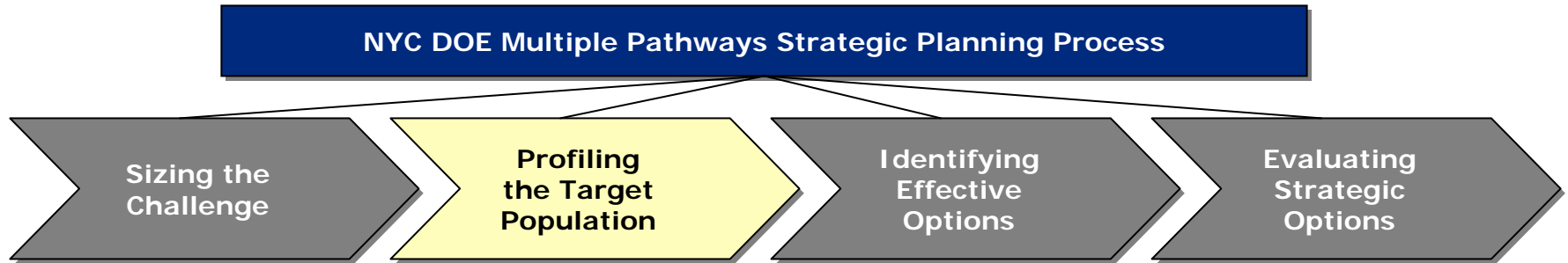
- However, ~4,800 students (7% of the cohort) remain enrolled and have both earned 33+ credits and passed 4+ Regents
- Finding effective interventions for these students could provide a notable incremental increase to the graduation rate

**Students Not Graduating in Four Years:
Total Credits Earned vs. Regents Passed, Class of 2005 Cohort**



Profiling the Target Population

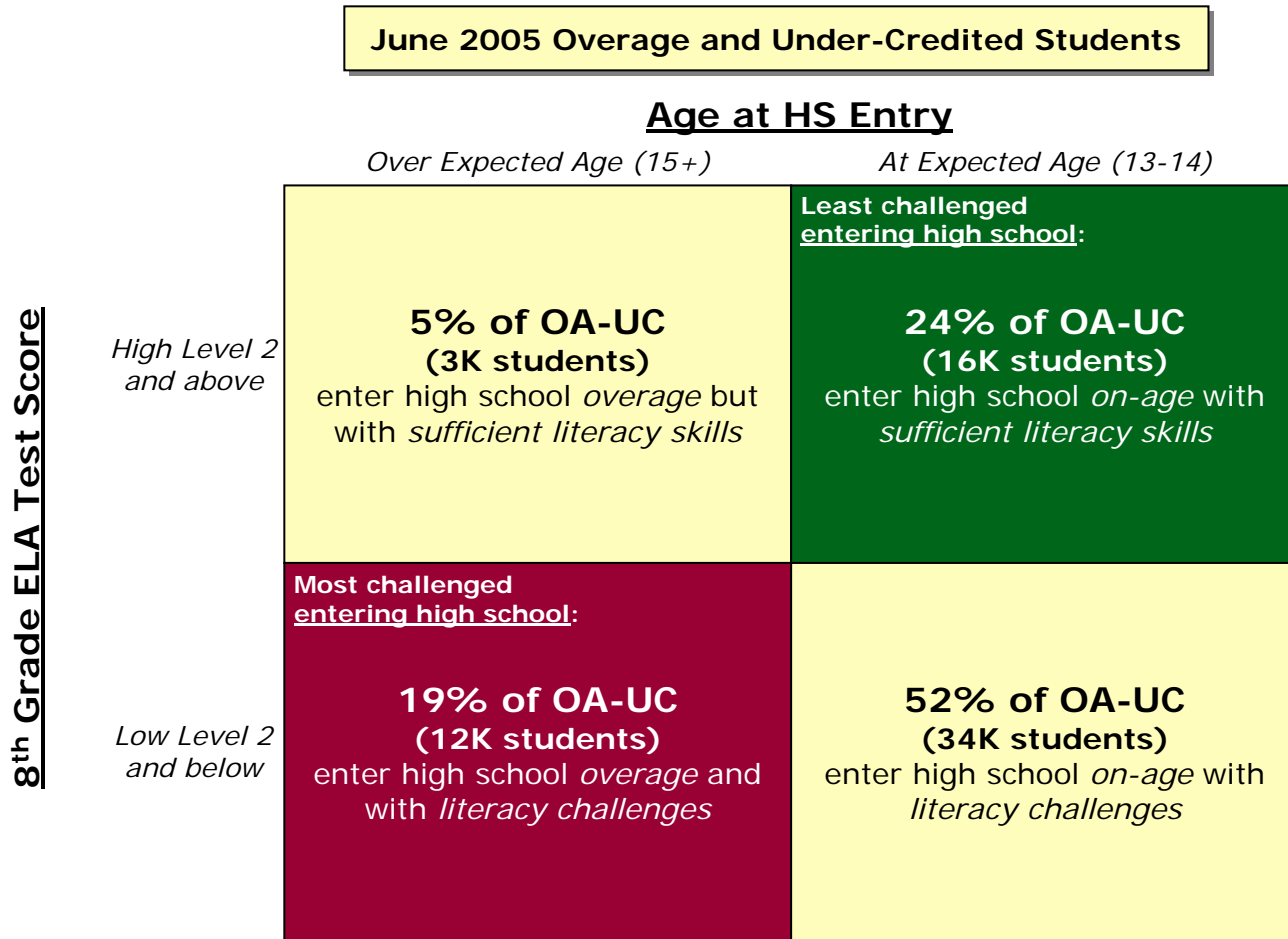
Core Analyses



- **Determine relationship between incoming skill levels and becoming overage and under-credited**
 - Quantify the proportion of students who enter HS “on-track” but become OA-UC
- **Calculate overlap between OA-UC population and ELL and SPED students**
- **Analyze progression of OA-UC students throughout their HS career**
 - Timing of when in high school students fall off-track
 - Patterns and outcomes once students have become OA-UC
- **Measure graduation rate for OA-UC students**
 - Capture timing of graduation and the type of degree earned

Profiling the Target Population

Literacy Is a Leading Challenge for OA-UC Students, yet 30% Enter High School with Sufficient Skills on 8th Grade Exams

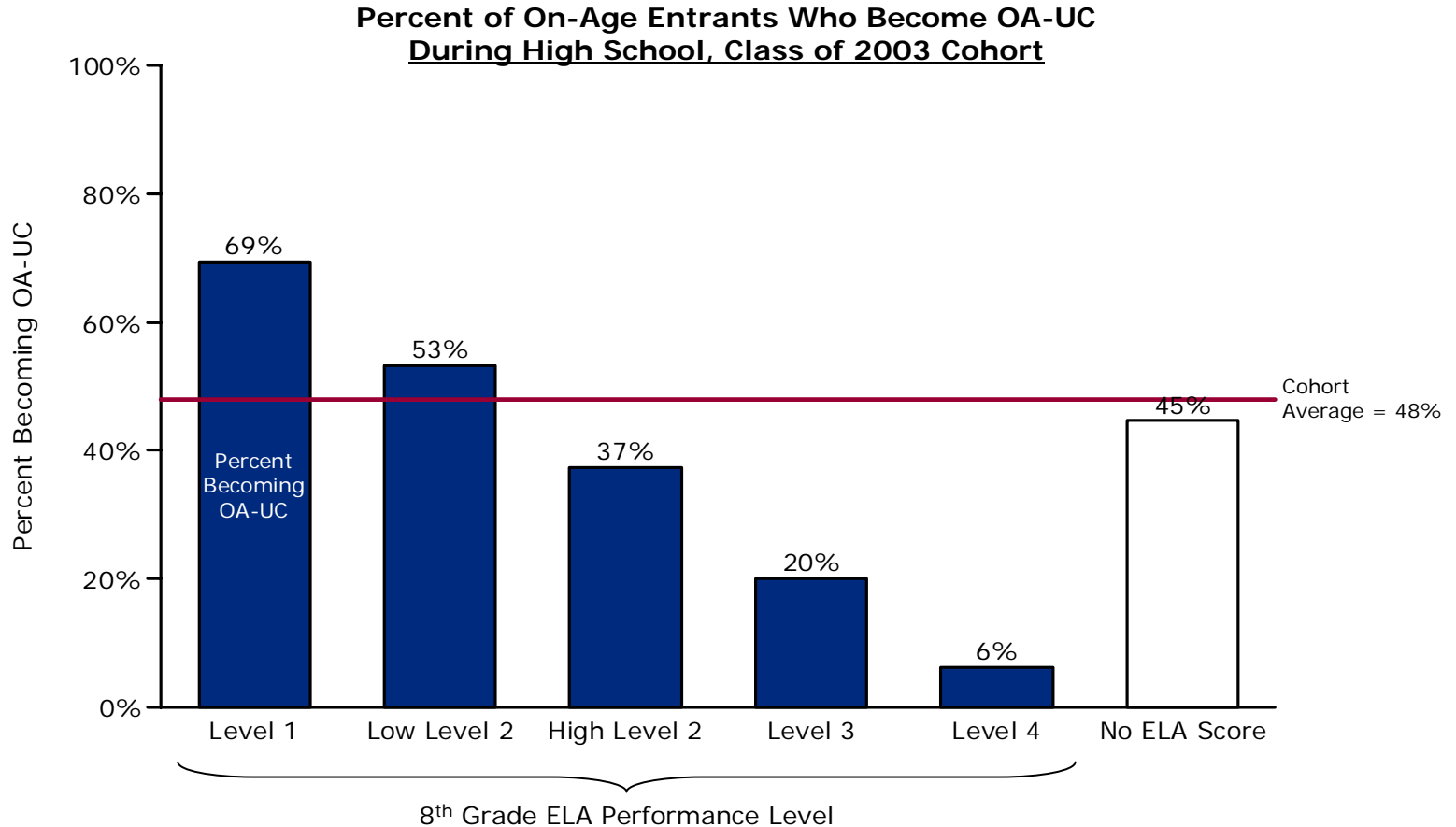


Note: See Appendix for detailed description of 8th grade ELA and Math test standards; Excludes District 75 students
Source: A.T.S. Data of Education

Profiling the Target Population

A Significant Number of Students Become OA-UC Regardless of Incoming Proficiency Levels

- 25% of students who enter high school on-age with at least a high Level 2 ELA score become overage and under-credited during high school



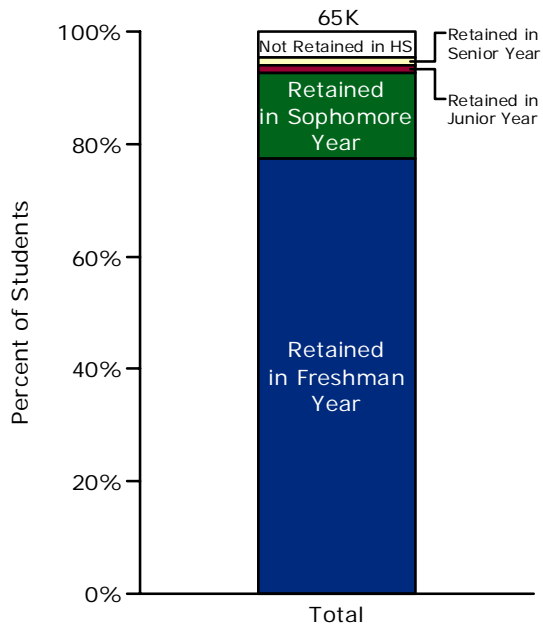
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Profiling the Target Population

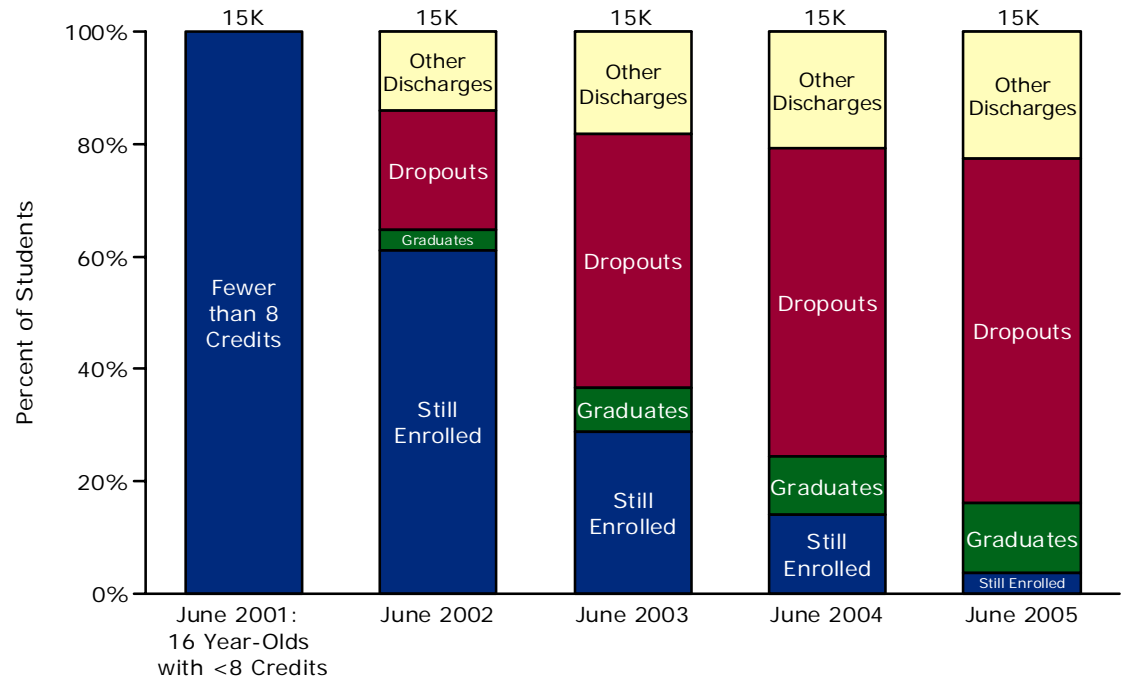
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Year in Which Overage and Under-Credited Students Were First Retained



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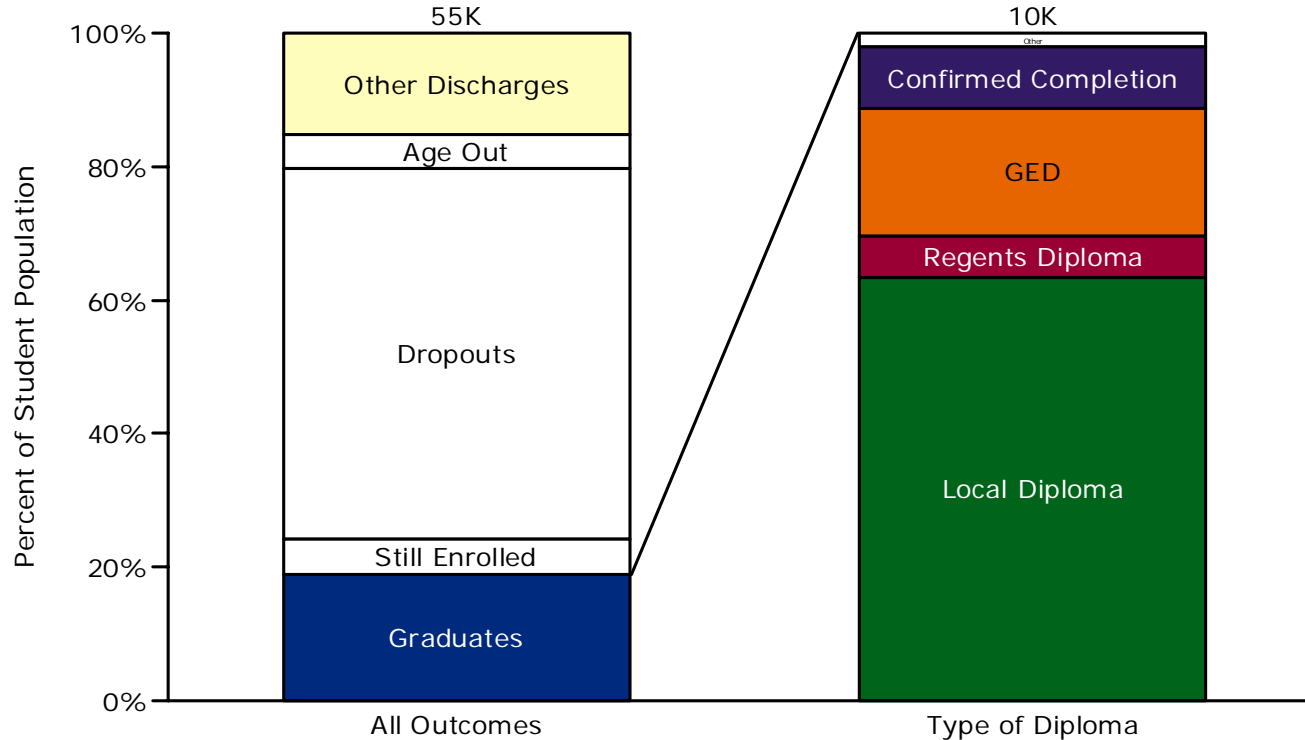
Cumulative Attrition Rate	35%	63%	76%	84%

Profiling the Target Population

Only 19% of Overage and Under-Credited Students Ultimately Receive a High School Diploma or GED

- 6% of OA-UC graduates receive a Regents diploma (under prior definition of passing eight Regents), while GEDs account for 20% of OA-UC graduates

Age, School Type, and Credential of Overage and Under-Credited Graduates, June 2001 Cohort



Note: See Appendix for detailed description of Diploma types; Excludes District 75 students; Excludes IEP diplomas; Confirmed Completion signifies proof presented of receipt of a high school diploma

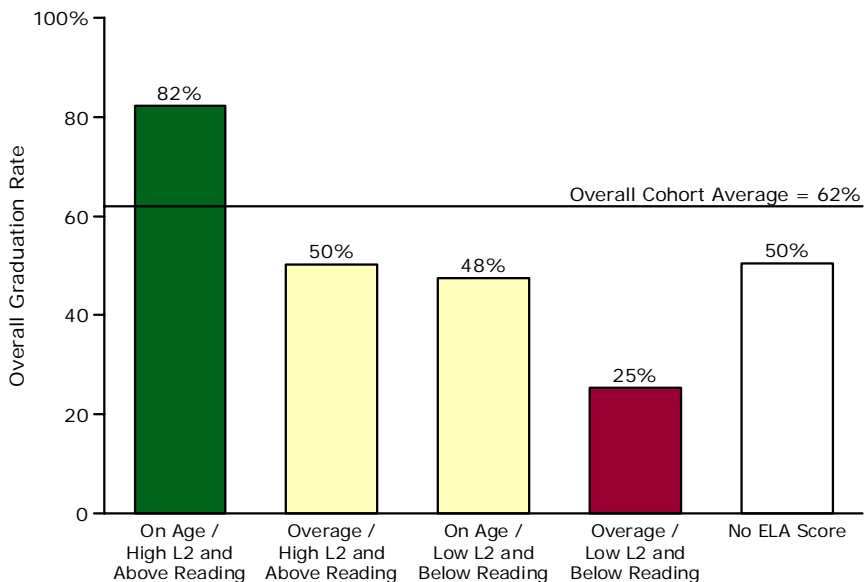
Profiling the Target Population

Once Students Become OA-UC, 8th Grade Proficiency Levels Do Not Drive Significant Variation in Graduation Rates

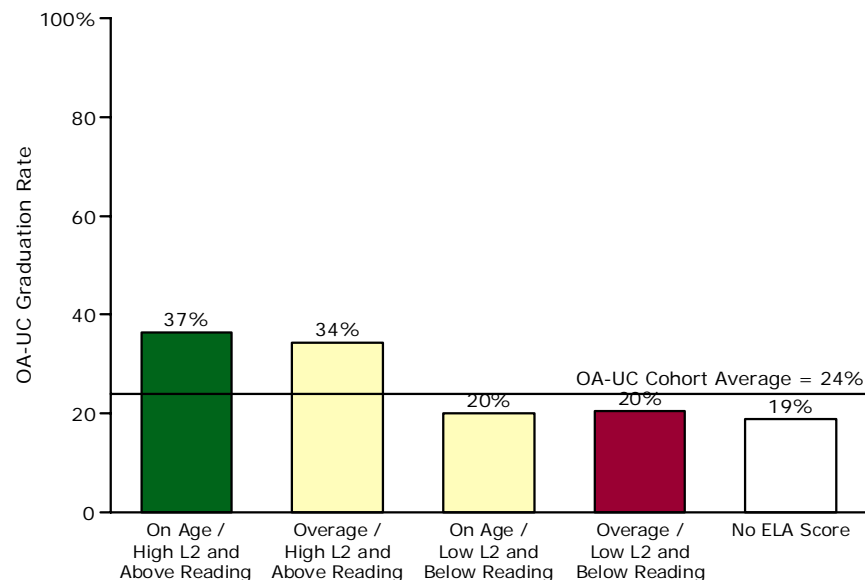
- Although incoming skills are important, they are not the sole determinant of student outcomes
 - Even well-prepared students – those entering on-age with at least a high Level 2 ELA score – graduate at only a 37% rate once becoming OA-UC (vs. 82% for the general population)

6-Year Graduation Rate by Age at HS Entry and 8th Grade ELA Level, Class of 2003 Cohort

All Entering Freshmen



Overage and Under-Credited Students



Note: 6-year graduation rate (completion status as of June 2005); Excludes District 75 students, students who receive IEP diplomas and students with confirmed discharges; See appendix for detail on graduation rate by Diploma type

Secondary Reform Plan – Selected Analysis

Key Issues

Setting the Goals, Objectives, and Focus For the Secondary Reform Plan

- Secondary reform aims to raise the 4 year graduation rate to 70% and the 6 year graduation rate to 80%
- Our strategy is founded on clear data-driven elements, incorporates a portfolio of strategies, and is supported by broad system-wide levers of change (leadership, empowerment, and accountability)
- Analysis has demonstrated that incoming skill levels are an important and powerful driver of graduation rates; however:
 - Many prepared students still fall behind; and,
 - Once students fall behind variations in graduation are no longer explained by their skills
- Thus, we must focus on both preventative and recuperative strategies for all students



Preventative and Recuperative Powers for Low-Level Students

- Can we identify 'beat the odds' schools at preventing low-level students from becoming overage / under-credited?
- What do those schools have in common?
- Can we draw broader understanding from them?

Elements of School Characteristics and Their Impact on Student Outcomes

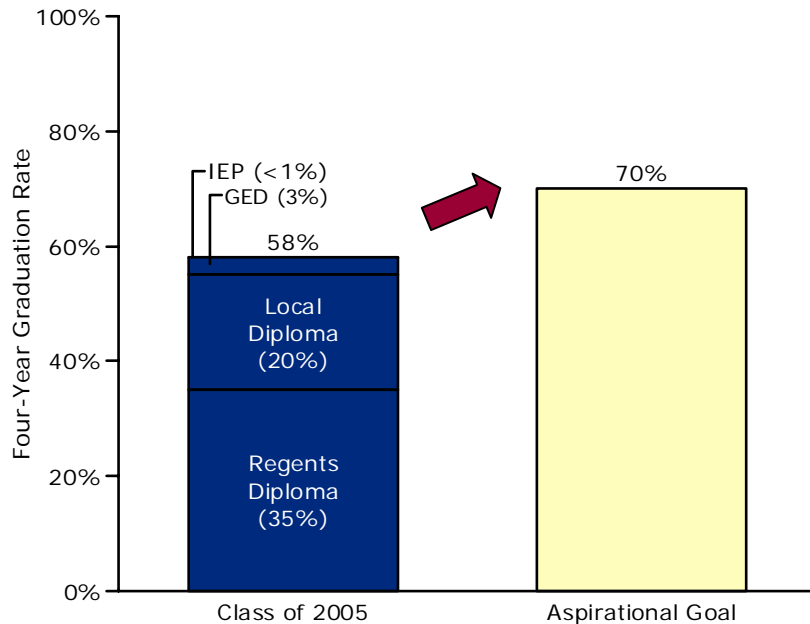
System Design and It's Impact on Graduation Rates

System Complexity and Dynamics

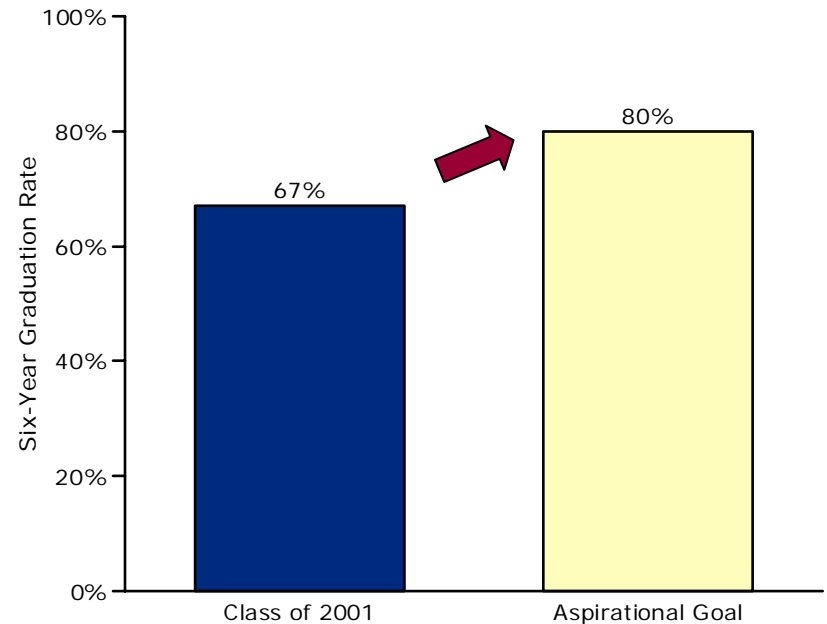
Secondary Strategy Goals and Core Elements

Secondary Reform Aims to Raise the 4-Year Graduation Rate to 70% and the 6-Year Graduation Rate to 80%

**Four-Year Graduation Rate:
Class of 2005 Rate and Targeted Goal**



**Six-Year Graduation Rate:
Class of 2001 and Targeted Goal**



Note: Includes GED. Excludes Self-Contained SPED but includes limited other IEP Diploma recipients. Diploma type not shown for Class of 2001 graduates due to changing degree criteria

Source: DAA

Secondary Strategy Goals and Core Elements

Our Strategy Is Founded on Four Clear Design Elements



Secondary Strategy Goals and Core Elements

Reform Will Increase Graduation Rate Through a Portfolio of Specific Strategies Supported by System-Wide Levers of Change



- System-wide programmatic emphasis on increased personalization of school cultures and academic rigor
 - Specific need for high engagement of and academic support for underperforming students (e.g. intensive recuperative literacy and numeracy/math)

Leadership

Empowerment

Accountability

- Three core Levers of Change provide the design and implementation basis of all programmatic strategies
- Alignment of all secondary strategies with accountability initiatives—In progress (progress report for High Schools and Transfer Schools)



Portfolio of Strategies to Increase Graduation Rates

Transform Existing Articulated High Schools

Increase the Number of New Small High Schools

Expand and Strengthen Multiple Pathways Portfolio

Targets increase in 4-year rate

Targets increase in 4-year rate

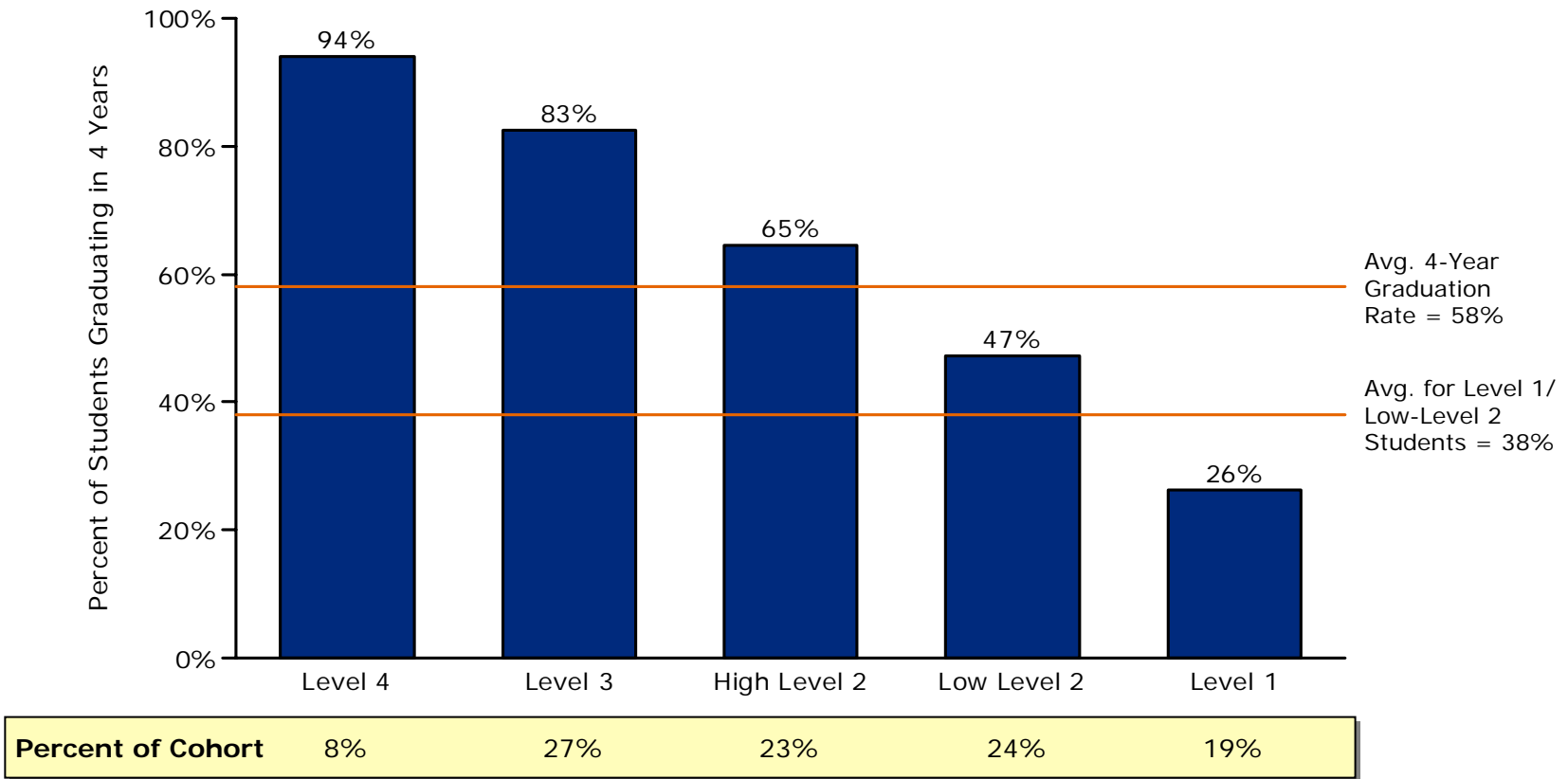
Targets increase in 6-year rate

Secondary Strategy Goals and Core Elements

Incoming Skill Levels Are an Important Factor in Explaining Graduation Outcomes

- Taken together, Level 1 and Low-Level 2 students have a four-year graduation rate of 38%

Class of 2005 Four-Year Graduation Rate by 8th Grade ELA Level



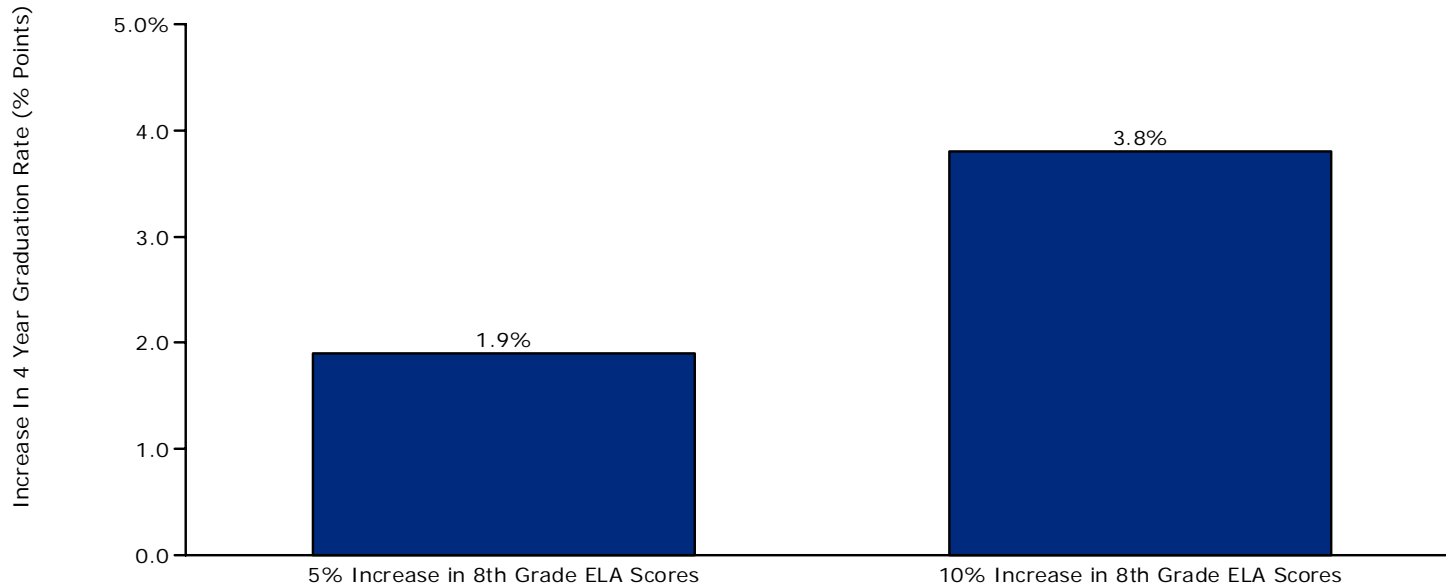
Note: Students who enter with no ELA score data graduate at 51%, seven points below the system average

Secondary Strategy Goals and Core Elements

Raising 8th Grade Exam Scores Is an Important Factor in Increasing Graduation Rates

- Efforts to ease the transitional period from 8th to 9th grade may also provide a significant increase to the graduation rate

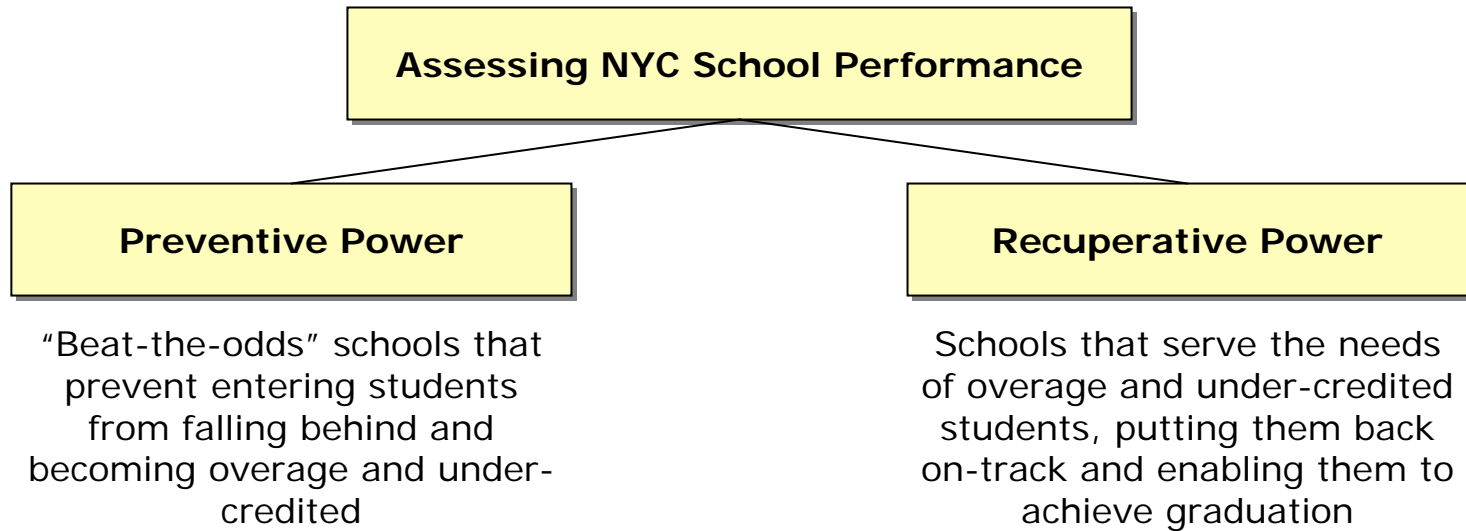
Estimated Increase in Four-Year Graduation Rates from Changes to 8th Grade ELA Scores



Note: Increases in L3 and L4 students portrayed were taken proportionately from HL2, LL2 and L1 categories. Students who enter with no ELA score data graduate at 51%, seven points below the system average

Secondary Strategy Goals and Core Elements

School Performance Can Be Examined on Dimensions of Preventive and Recuperative Power for At-Risk Students

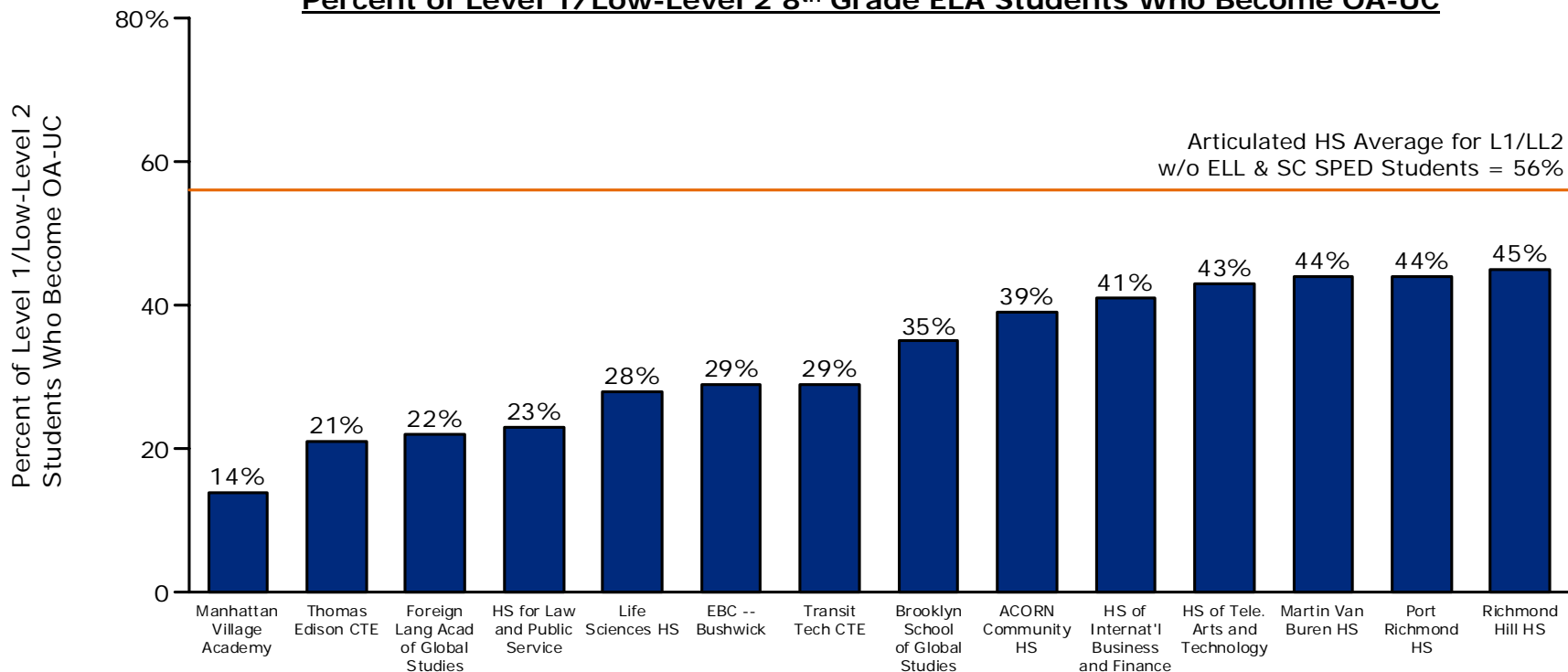


Preventative and Recuperative Powers

A Diverse Set of Schools that “Beat the Odds” in Promoting Low-Level Readers Exists Across the Secondary School Portfolio

- Understanding and proliferating the practices of “beat-the-odds” schools can be integral to system improvement

Illustrative Sample of “Beat the Odds” High Schools, Defined by Percent of Level 1/Low-Level 2 8th Grade ELA Students Who Become OA-UC



Total Enrollment	359	2,330	422	601	713	659	1,713	660	700	681	1,210	3,449	2,601	3,696
Percent L1/LL2*	52%	27%	39%	60%	42%	58%	41%	58%	65%	67%	30%	39%	38%	58%

* Average percentage of Level 1/Low-Level 2 students equals 42% (excluding Self-Contained SPED and ELL)
 Note: Data is for first-time freshmen in the Class of 2005. Excludes Self-Contained SPED and ELL students.
 Excludes schools with 20 or fewer freshmen who scored Level 1 or Low-Level 2 on the 8th grade ELA exam

Preventative and Recuperative Powers

Taken Together, Size and Concentration of Low-Skills Students Begin to Predict Preventive Power of An Individual School

School Size

As a single factor, school size explains only **9%** of the variation in outcomes for Level 1 and Low-Level 2 students

Concentration of Level 1/ Low-Level 2 Students

As a single factor, concentration explains **22%** of the variation in outcomes for Level 1 and Low-Level 2 students



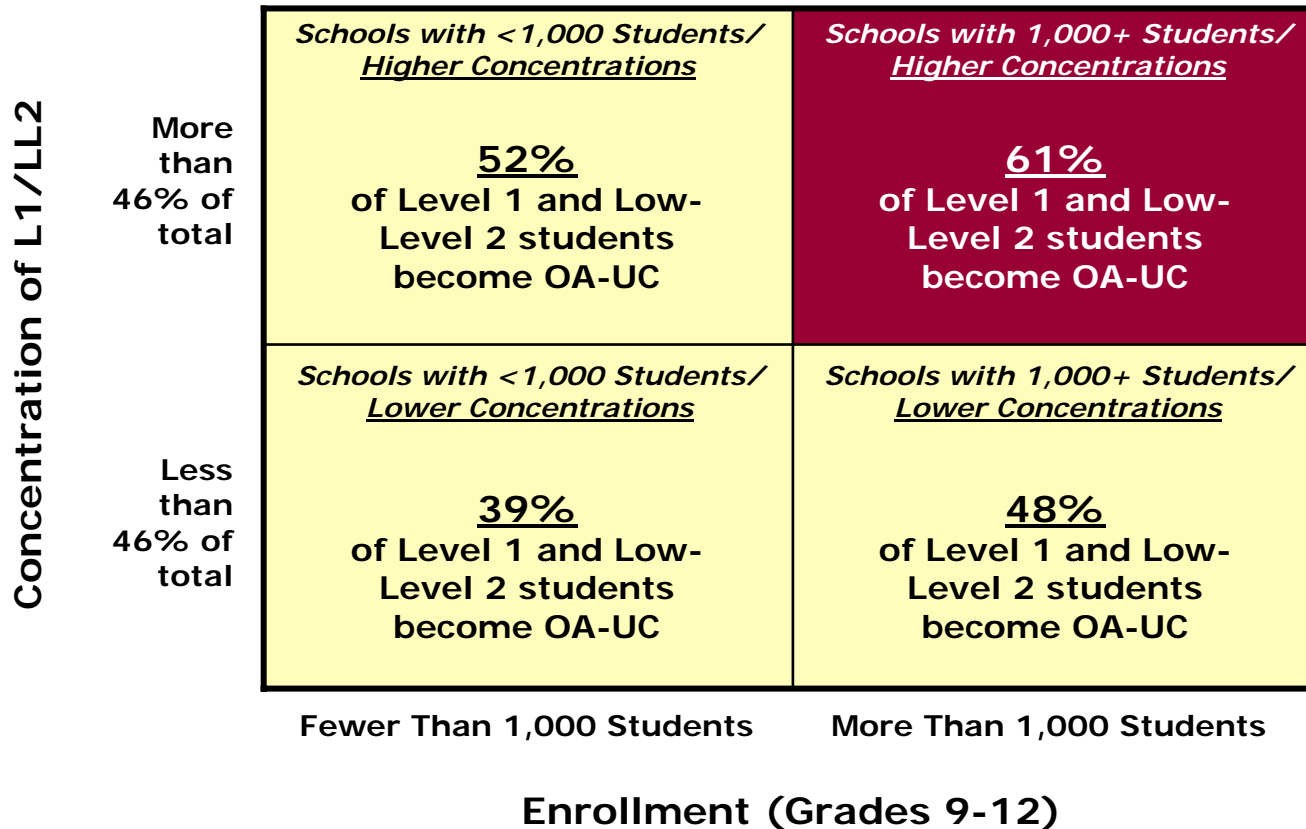
School Size Combined with Concentration of Low-Level Students

Run together in a two-factor regression, school size and concentration of low-level students explain **41%** of the variation in outcomes for Level 1 and Low-Level 2 students

Preventative and Recuperative Powers

Schools with 1,000+ Students and High Concentrations of Low-Level Students Tend to Underperform with Low-Level Students

Relationship Between School Size and Concentration of Low-Level Readers



Note: 46% represents average concentration of Level 1/Low-Level 2 students in Class of 2005 cohort

Source: ATS Data

Preventative and Recuperative Powers

This insight is a powerful message about the impact of system level policy choices and creating conditions favorable to instructional, leadership, and accountability strategies to increase graduation rates

- Size and concentration of low-proficiency students together have explanatory power for the generation of overage and under-credited students (e.g., which schools “beat-the-odds” according to), however...
- These two variables (size, concentrations) alone do not take into account the dynamic relationship of multiple factors that affect ultimate graduation outcomes
 - Conditions: size and concentration
 - Levers of change: accountability, curricular and instructional, leadership



- **To what extent can graduation outcomes be explained?**
- **What variables / factors influence graduation outcomes?**
- **How much do individual variables / factors explain?**
- **Which variables, if any, are actionable and how?**

Secondary Reform Plan – Selected Analysis

Key Issues

Setting the Goals, Objectives, and Focus For the Secondary Reform Plan

Preventative and Recuperative Powers for Low-Level Students

- School size and concentration of low level students is a powerful predictor of an individual school's ability to prevent Level 1 and Low Level 2 students from falling behind
- In those schools that are large (over 1000 students) and have higher than average concentrations of students who have low skills, three out of five students become average / under-credited
- This approach can be expanded to develop insights into other factors that drive overall graduation rates at individual schools



Elements of School Characteristics and Their Impact on Student Outcomes

- What elements of school design have an impact on graduation outcomes and how powerful are they?
- Does school design differentially impact certain students?
- Can we use this knowledge to inform actionable system policy choices about school design?
- Can we identify whether a school appears to be 'over' or 'under' performing relative to expectations?

System Design and Its Impact on Graduation Rates

System Complexity and Dynamics

Elements of School Design and Impact On Graduation

What Could, and Does, Predict the Graduation Rate at a School?

Variable Tested	Methodology/Calculation	Statistically Significant?
Graduation Rate (Dependent)	DAA City Cohort data for each school on graduation rate for class of 2005 (includes GED and IEP diplomas)*; Graduation rates were also calculated for each level of ELA and MAT tests by individual DBN	N/A
Enrollment	Total HS enrollment as of June 2002	✓
Gender	Calculated as proportion of females in student population for each school	✓
Reading Proficiency	School proportion of each of 5 categories of 8 th grade ELA performance (L1, LL2, HL2, L3, L4)	✓
Math Proficiency	School proportion of each of 5 categories of 8 th grade math performance (L1, LL2, HL2, L3, L4)	✓
Screened/Educational Option Seats	Calculated as the proportion of seats in a given school designated as screened/EO in 2004-5 to the total number of freshman seats, defined as the audited 2004-5 freshman enrollment where available or the total seats listed in each school by program listed otherwise	✓
Career/Technical School (DV)	Indicated as 1 or 0 based on whether school is a CTE	No
Specialized School (DV)	Indicated as 1 or 0 based on whether school is one of the 7 specialized schools (i.e. Stuyvesant)	No
Title 1 Funding (DV)	Indicated as 1 or 0 based on whether school receives Title 1 funding (proxy for student poverty level)	No
ELL Proportion	Percentage of students in 9 th grade who are ELL	No
SPED Proportion	Percentage of students in 9 th grade who are special education students (DAA Cohort excludes most self-contained SPED students)	No
Student-Teacher Ratio	Calculated as ratio of high school teachers to high school students based on data in the 2004-5 Allocation Memo Part C: Allocation Method	No
Average Teacher Salary	Based on cost of FTE for each school from the 2004-5 Allocation Memo Part C: Allocation Method	No
8th Grade Attendance	Calculated as proportion of students in a school whose 8 th grade attendance was lower than 85%	No
Proportion of Classes Taught by Highly Qualified Teachers	Percentage of Math and English classes (separate variables) taught by teachers defined as "Highly Qualified" in that subject by the state of New York	No

*Excludes Transfer, GED, Special Education and Home School programs

Note: Significance based on 95% confidence interval and multiple regressions including combinations with statistically insignificant variables

Source: AFS Data; Parthenon Regression Analysis

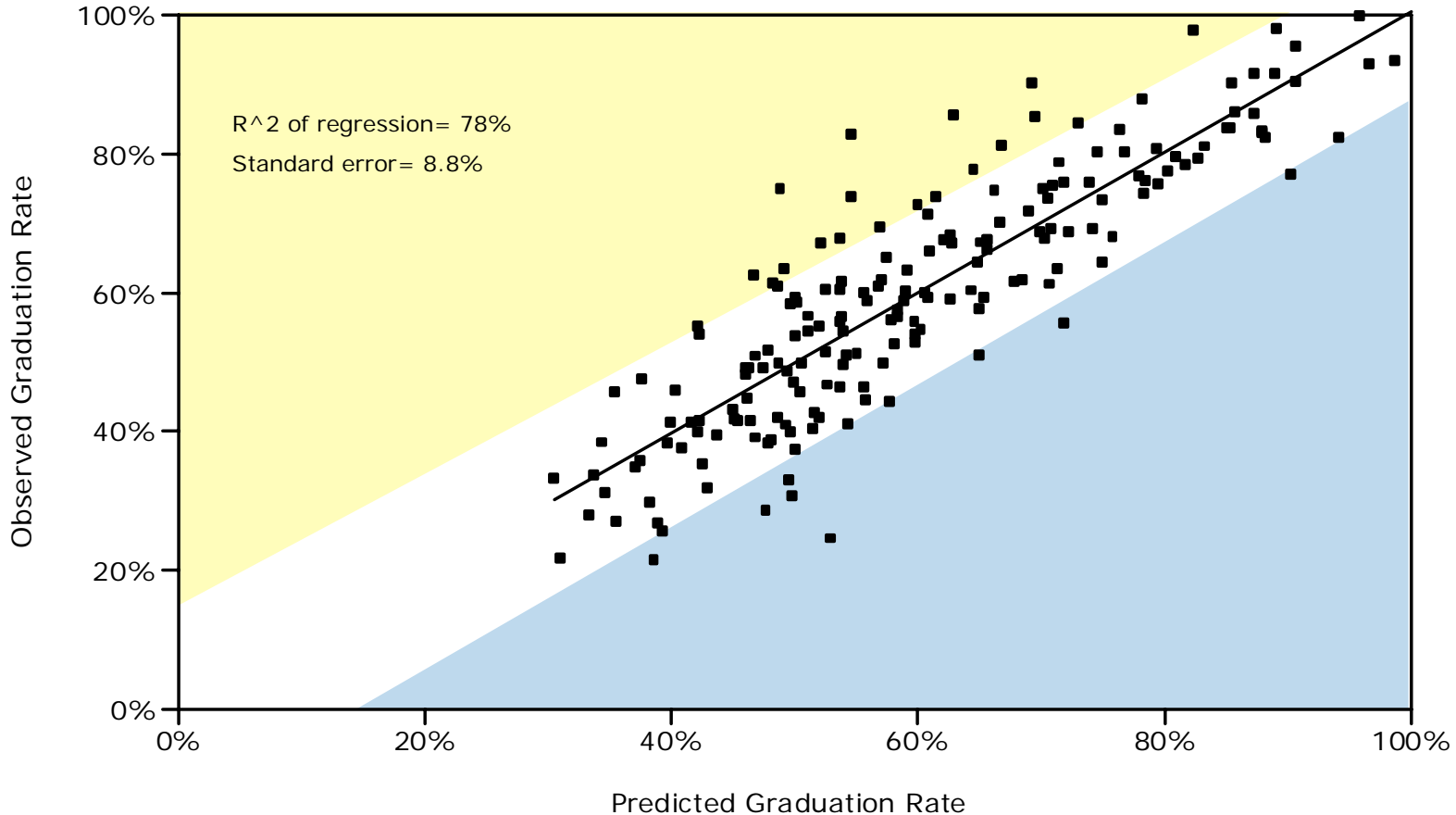
Elements of School Design and Impact On Graduation

Current Variables Are Predictive of Graduation Rates, but Also Reveal Range of Outcomes Between High- and Low-Performers

- The tested variables explaining 78% of variance across schools, but also show a gap of ~20% points of graduation rate between over- and under-performers

Plot of Actual Graduation Rates and Predicted Rate

Over-performance
Under-performance



Note: Over-performance and under-performance based on 95% confidence interval

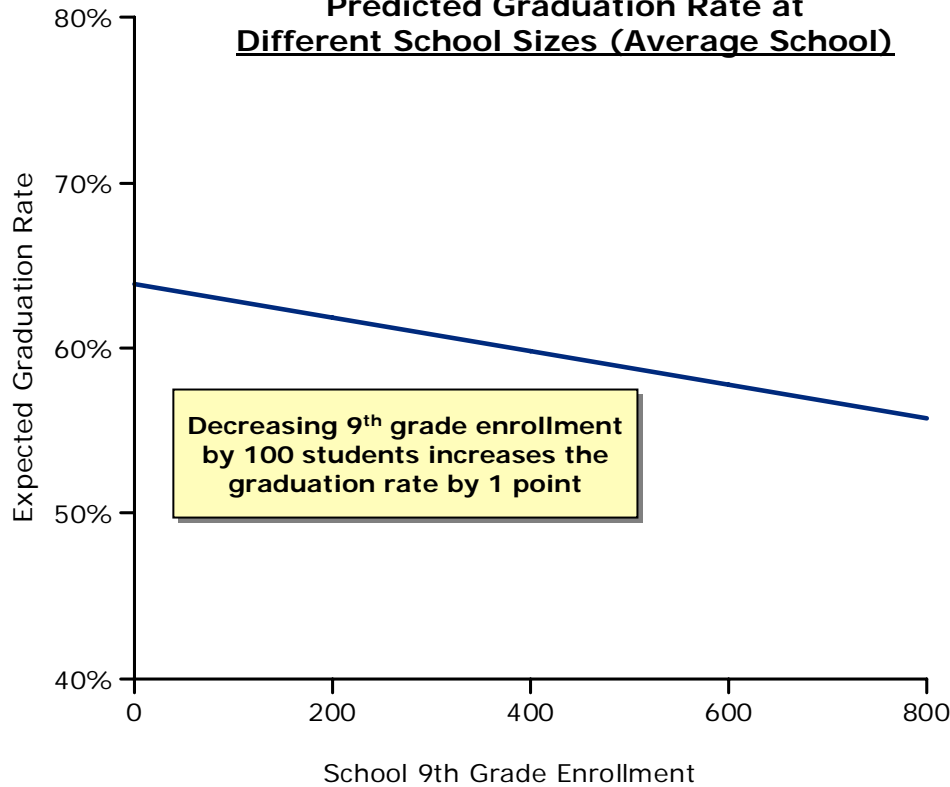
Source: ATIS Data; Parthenon Regression Analysis

Elements of School Design and Impact On Graduation

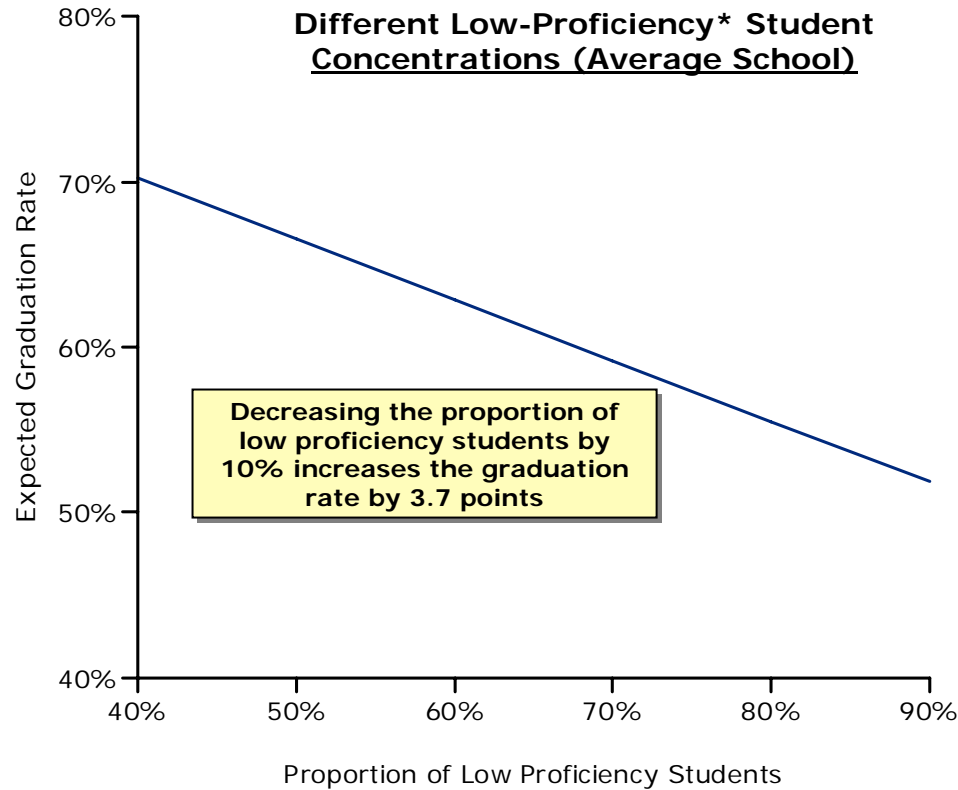
Each Performance Driver's Contribution to Graduation Rate Varies in Magnitude

- Enrollment/school size and concentration of low-proficiency students are the highest-impact actionable variables

Predicted Graduation Rate at Different School Sizes (Average School)



Predicted Graduation Rate at Different Low-Proficiency* Student Concentrations (Average School)



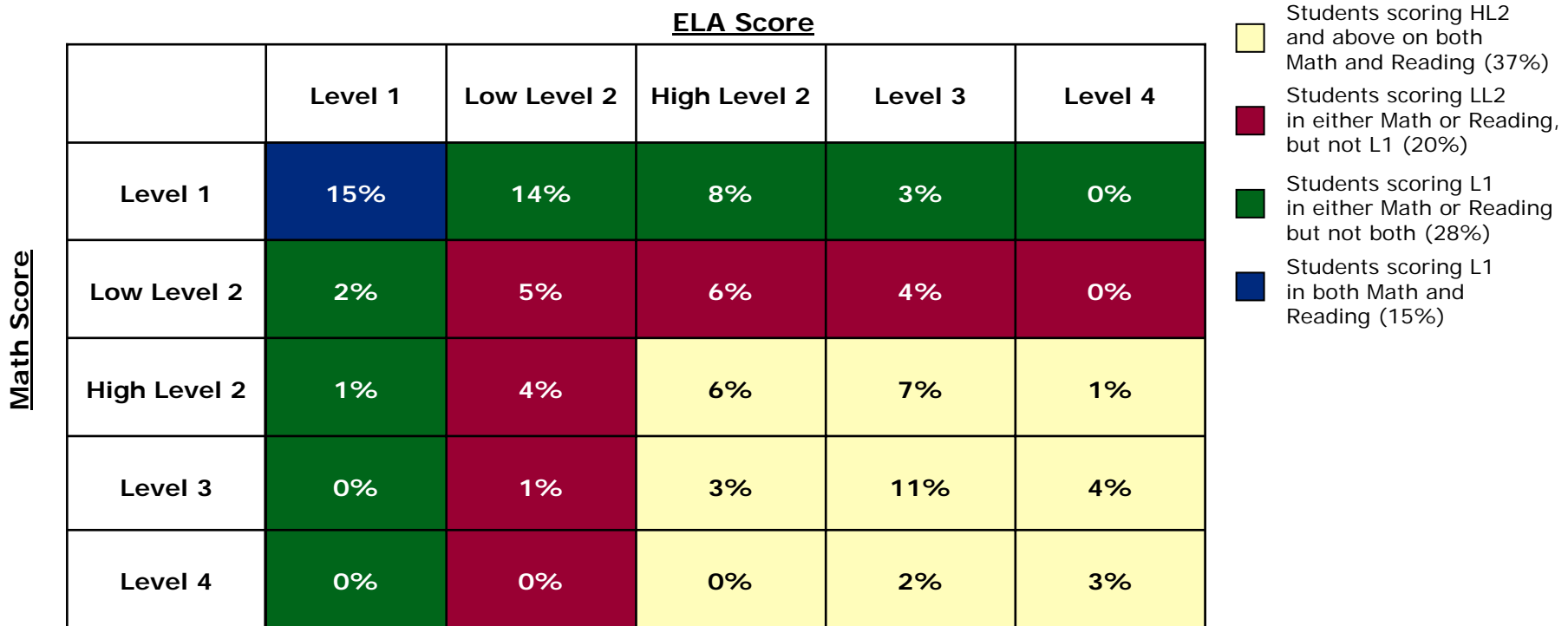
*Low Proficiency students defined as scoring LL2 or below on either 8th grade Math or ELA tests
Note: All variables held at average for sample except for 9th grade enrollment (1st chart) and proportion of low-proficiency (2nd chart)
Source: ATS Data, Parthenon Regression Analysis

Elements of School Design and Impact On Graduation

Effects of Different Performance Drivers Can Be Isolated for Very Specific Segments of Student Proficiency Levels

- Understanding outcomes of different student segments helps drive targeted strategies
 - 46% of students have higher ELA than Math scores, while only 13% of students have higher Math than ELA scores

Distribution of 8th Grade Test Score, Class of 2005 Cohort



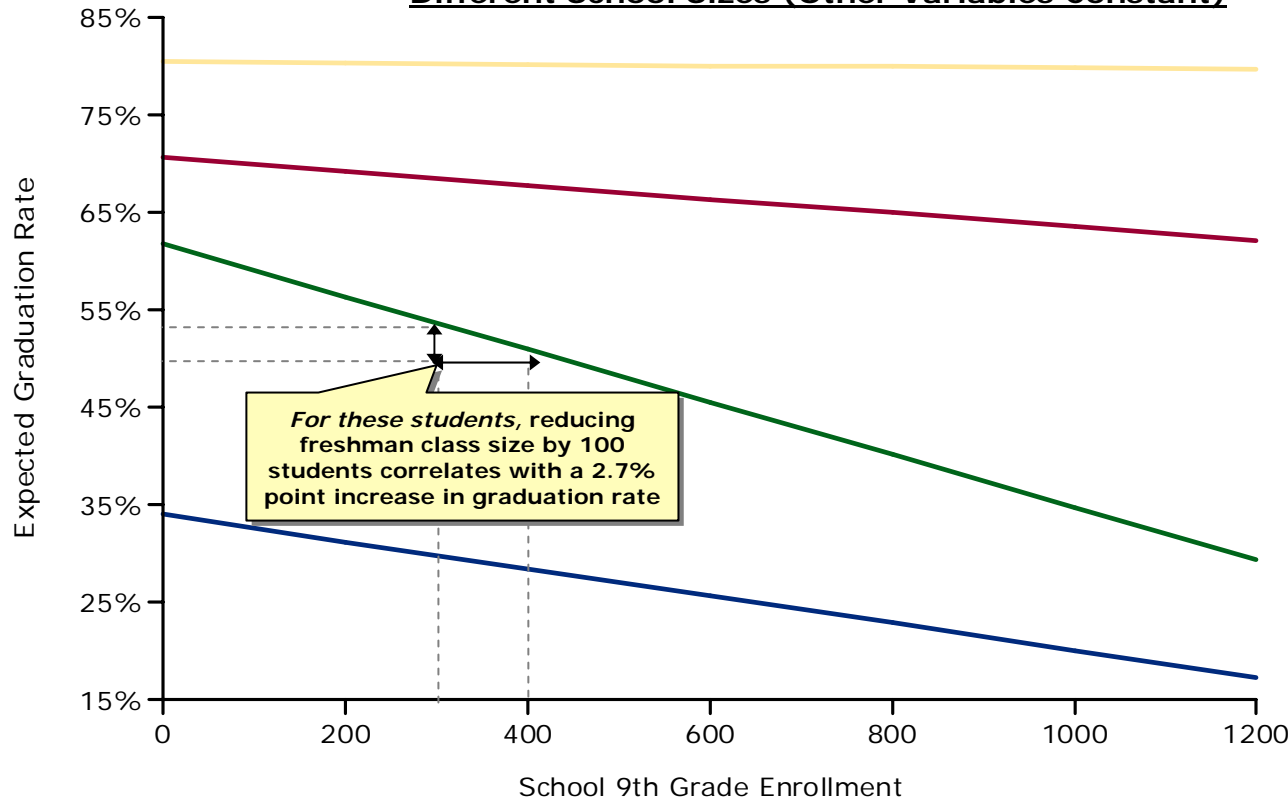
Note: Excludes 17.5K of 68K total students who have no scores or only have a score for one of the tests; Score combinations with 0% of scores all have less than 0.2% of the total scores

Elements of School Design and Impact On Graduation

School Size Has A Strong Relationship to Graduation Rates for Low-Proficiency Students

- Students scoring High-Level 2 and above in both ELA and Math have a nearly identical graduation rate in schools of any size
- Students scoring Level 1 in both ELA and Math are less affected by school size than students who only score Level 1 in a single subject

Predicted Graduation Rates for Proficiency Groups at Different School Sizes (Other Variables Constant)



Legend

- Students scoring HL2 and above on both Math and Reading
- Students scoring LL2 in either Math or Reading, but not L1
- Students scoring L1 in either Math or Reading but not both
- Students scoring L1 in both Math and Reading

Translation

- 0.06 percentage points per 100 additional students
- 0.7 percentage points per 100 additional students
- 2.7 percentage points per 100 additional students
- 1.4 percentage points per 100 additional students

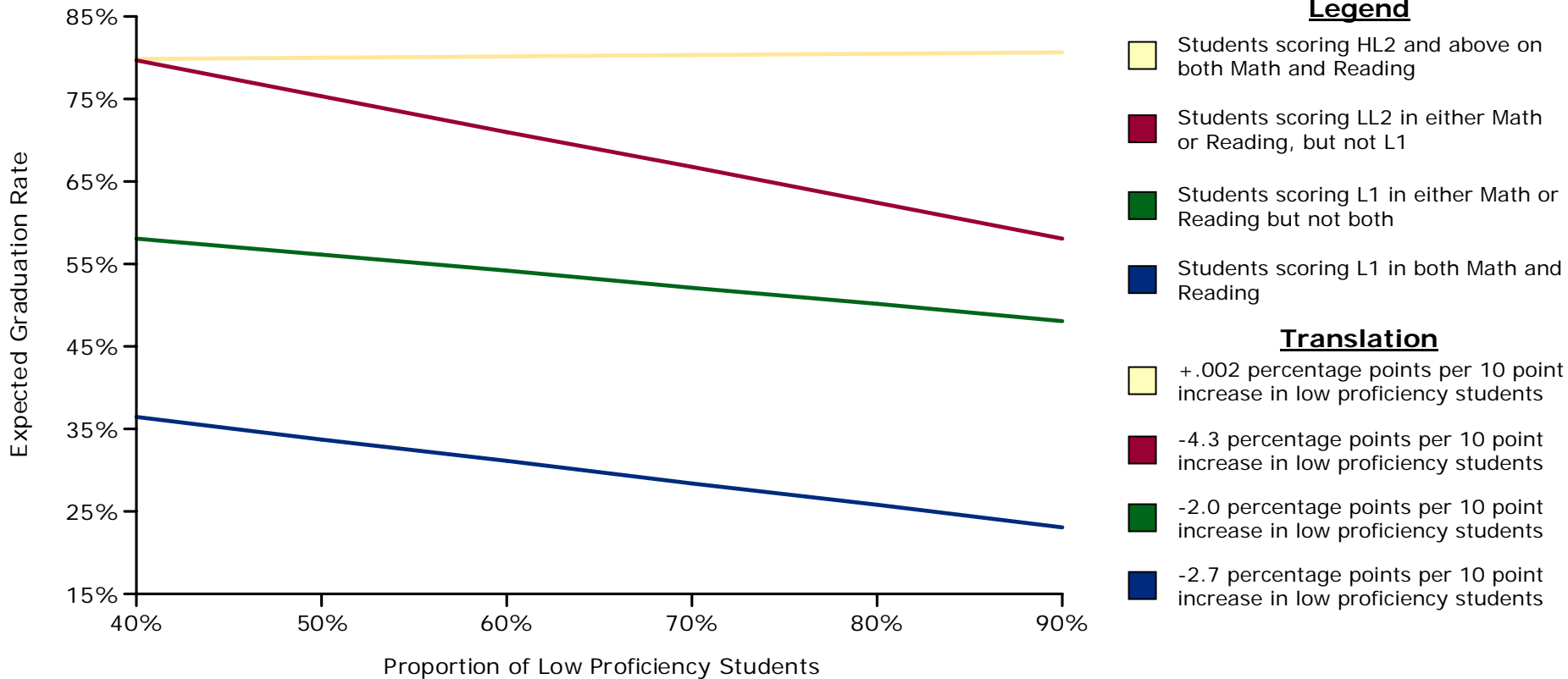
Note: Prediction line for graduation rate for proficiency groups holds all variables (except enrollment) constant at the average for all schools in sample
 Source: ATS Data, Parthenon Regression Analysis

Elements of School Design and Impact On Graduation

Concentration of Low Proficiency Students Disproportionately Affects Mid- and Low-Performers

- Students scoring Low-Level 2 (but not Level 1) are most affected by high concentrations of low-proficiency students

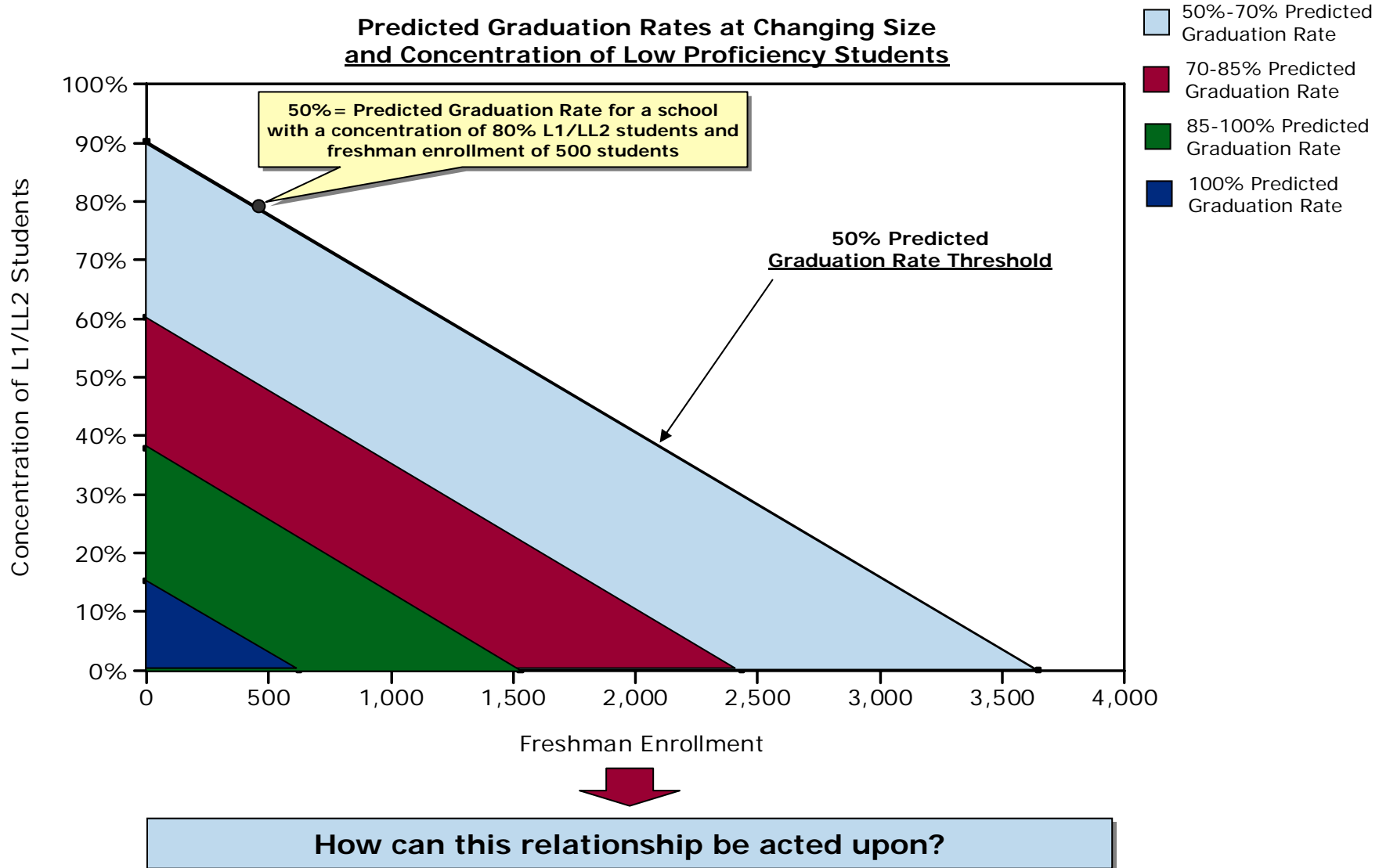
Predicted Graduation Rates for Proficiency Groups at Different Concentrations of Low-Proficiency Students (Other Variables Constant)



*Low Proficiency students defined as scoring LL2 or below on either 8th grade Math or ELA tests
Note: Prediction line for graduation rate for proficiency groups holds all variables (except concentration) constant at the average for all schools in sample
Source: ATS Data, Parthenon Regression Analysis

Elements of School Design and Impact On Graduation

The Relationship Between Graduation Rate and School Size & Student Concentrations Provides A Decision-Making Tool...



Elements of School Design and Impact On Graduation

....That Allows Management to Make Choices Around Portfolio “Optimization” and Related Trade-Offs...

Change School Size

vs.

Change Concentration of Low-Proficiency Students

Options

- Maintain the existing student body but overlay new structures (SLCs)
 - Does not require displacing students to other parts of the system
 - Reduce school size through breaking up large schools or creating new, smaller schools
- Reduce the total number of low-proficiency students in the system
 - Reduce the number of low-proficiency students at schools with the highest concentrations
 - School admissions process (e.g., cap low-proficiency concentrations at large schools)
 - Strive for more equitable distribution of concentrations across the system

Trade-Offs

- When school size is reduced, how to control which students are “displaced” and to which schools they transfer?
 - Sending low-proficiency students to smaller schools is preferable (vs. larger schools)
- When concentration of low-proficiency students is reduced, it is important to control where students transfer
 - Combined effects of size and concentration must be considered in aggregate

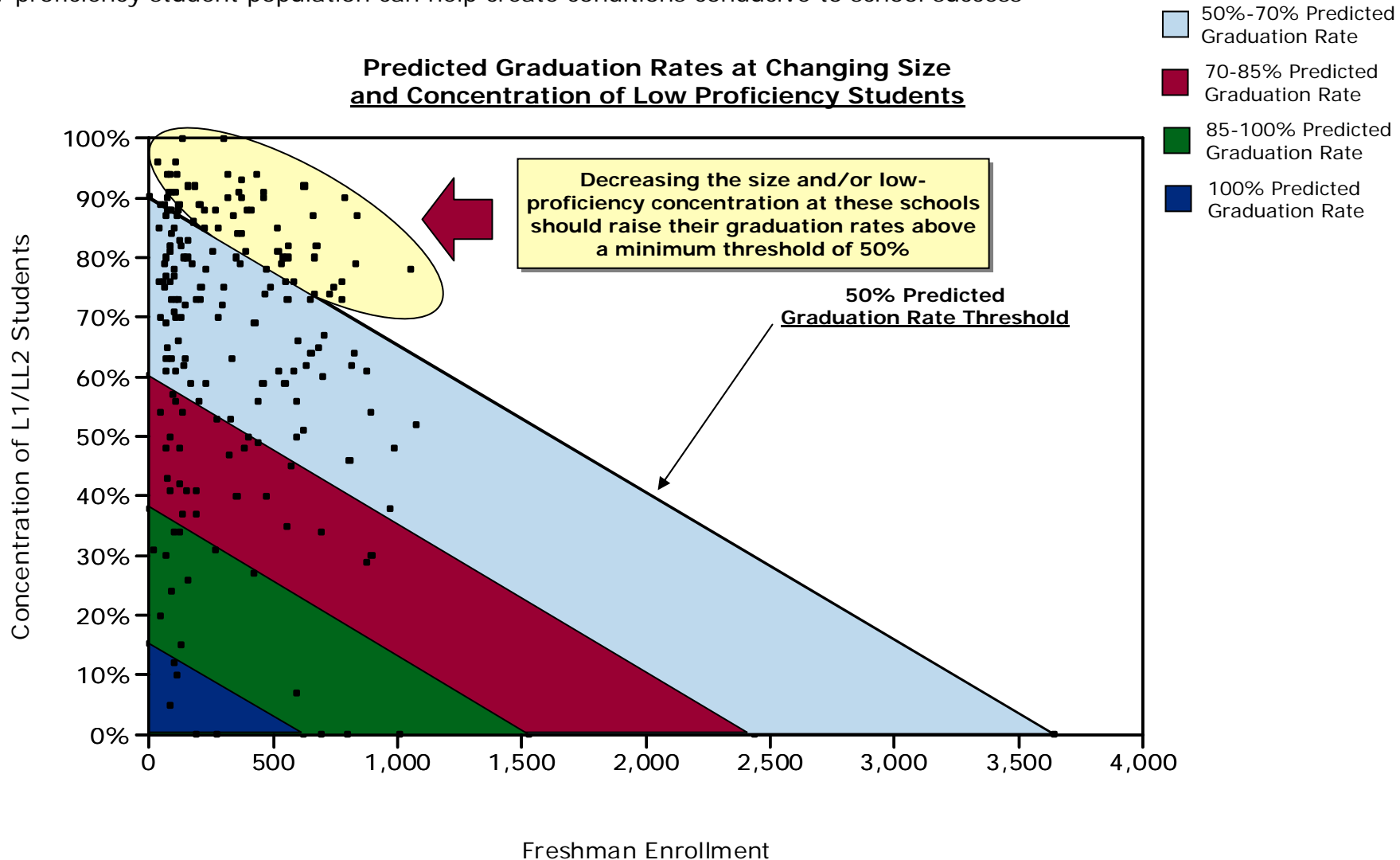


Creating conditions for success at the maximum number of schools is a critical lever for portfolio optimization

Elements of School Design and Impact On Graduation

...Based on School Improvement and Graduation Rate Targets

- Using school closures and the school selection process to proactively control school size and low-proficiency student population can help create conditions conducive to school success



Secondary Reform Plan – Selected Analysis

Key Issues

Setting the Goals, Objectives, and Focus For the Secondary Reform Plan

Preventative and Recuperative Powers for Low-Level Students

Elements of School Characteristics and Their Impact on Student Outcomes

- Nearly 80% of variance among individual schools performance can be explained by a few factors, amongst which, enrollment size and concentration of low level students (both ELA and Math) are the most important
- The impact of school size and concentration of low-level students is particularly acute for those students most likely to become overage / under-credited
- Leadership, teaching strategies, curriculum, and execution are critical levers for indicating that some schools 'over perform' and some 'under perform' relative to expectations
- Understanding the predictive power of individual school design can redefine how we approach system design and management; we can:
 - Make informed choices about portfolio design that recognize the related trade-offs; and,
 - Better understand whether a particular school is 'over' or 'under' performing relative to expectations



System Design and Its Impact on Graduation Rates

- How does individual school design relate to overall system and system design?
- What is the expected impact of different actions and how confident are we in their outcomes?

System Complexity and Dynamics

System Design and Impact on Graduation Rates

Translating School Design Into System Design

- We have a good understanding of what graduation rates can be expected from an individual school given the parameters we set (e.g. size, composition of the freshman class, screened seats)
- We have a methodology for understanding whether an individual school appears to be over or underperforming relative to expectations
- We have a good understanding of the graduation impact from focusing on different levers

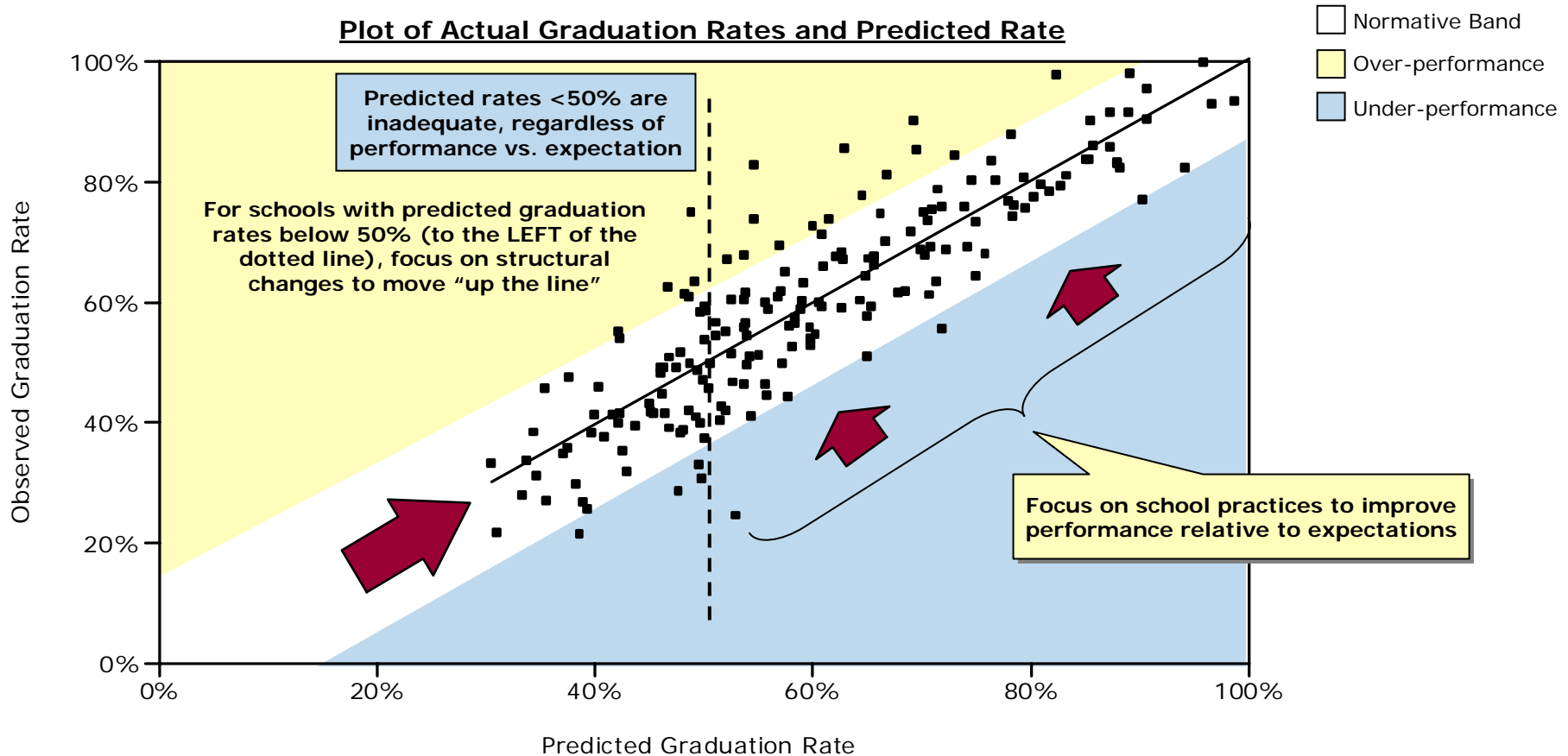


Understanding the predictive power of individual school design can redefine how we approach system design and management

System Design and Impact on Graduation Rates

Implementing Strategies Based on Individual School and System-Wide Benchmarks

- In schools with inadequate predicted graduation (below 50%) we will implement structural changes through system policies to create more favorable conditions (e.g. size and student concentration)
- In schools with adequate predicted graduation but where actual performance falls below predicted levels we will implement programmatic changes (e.g. instructional practices, programmatic offerings, leadership)

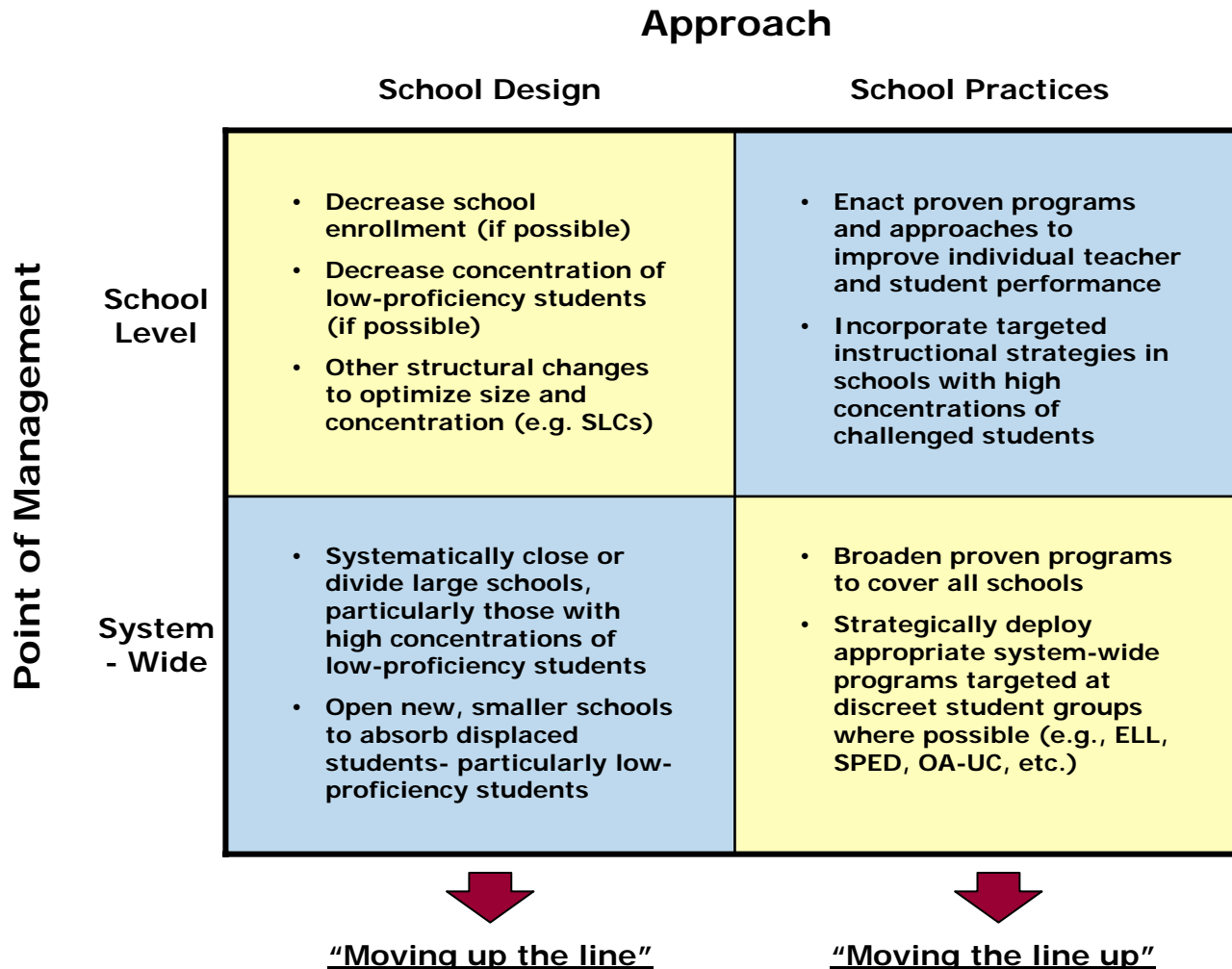


Note: Over-performance and under-performance based on 95% confidence interval
Source: ATS Data, Parthenon Regression Analysis

System Design and Impact on Graduation Rates

Both System-Wide and School Level Strategies Are Needed to Improve Performance

Intersections of Approach and Point of Management



System Design and Impact on Graduation Rates

Aligning System Design and Management to Reform Levers



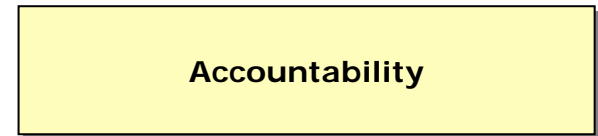
- System-wide programmatic emphasis on increased personalization of school cultures and academic rigor
- Specific need for high engagement of and academic support for underperforming students (e.g. intensive recuperative literacy and numeracy/math)



- Clearer sets of expectations and performance levers to help recruit and retain high caliber people



- A better understanding of the students in each school so that Principals can direct the appropriate strategies and understand the expected outcomes



- Linking expected outcomes to accountability standards – currently within peer groups

Secondary Reform Plan – Selected Analysis

Key Issues

Setting the Goals, Objectives, and Focus For the Secondary Reform Plan

Preventative and Recuperative Powers for Low-Level Students

Elements of School Characteristics and Their Impact on Student Outcomes

System Design and Its Impact on Graduation Rates

- Specific strategies will be included to address individual school and system-wide benchmarks
 - In schools with inadequate predicted graduation (below 50%) we will implement structural changes through system policies to create more favorable conditions (e.g. size and student concentration)
 - In schools with adequate predicted graduation but where actual performance falls below predicted levels we will implement programmatic changes (e.g. instructional practices, programmatic offerings, leadership)
- Portfolio design and implementation strategies will include both school level and system wide strategies



System Complexity and Dynamics

- What is the expected impact of reforms strategies that have already been implemented?
- What is driving the difference between expected and observed performance?

Secondary Reform Plan – Selected Analysis

Summary

Setting the Goals, Objectives, and Focus For the Secondary Reform Plan

- Secondary reform aims to raise the 4 year graduation rate to 70% and the 6 year graduation rate to 80%
- Our strategy is founded on clear data-driven elements, incorporates a portfolio of strategies, and is supported by broad system-wide levers of change (leadership, empowerment, and accountability)
- Analysis has demonstrated that incoming skill levels are an important and powerful driver of graduation rates; however:
 - Many prepared students still fall behind; and,
 - Once students fall behind variations in graduation are no longer explained by their skills
- Thus, we must focus on both preventative and recuperative strategies for all students

Preventative and Recuperative Powers for Low-Level Students

- School size and concentration of low level students is a powerful predictor of an individual school's ability to prevent Level 1 and Low Level 2 students from falling behind
- In those schools that are large (over 1000 students) and have higher than average concentrations of students who have low skills, three out of five students become overage / under-credited
- This approach can be expanded to develop insights into other factors that drive overall graduation rates at individual schools

Elements of School Characteristics and Their Impact on Student Outcomes

- Nearly 80% of variance among individual schools performance can be explained by a few factors, amongst which, enrollment size and concentration of low level students (both ELA and Math) are the most important
- The impact of school size and concentration of low-level students is particularly acute for those students most likely to become overage / under-credited
- Leadership, teaching strategies, curriculum, and execution are critical levers for indicating that some schools 'over perform' and some 'under perform' relative to expectations
- Understanding the predictive power of individual school design can redefine how we approach system design and management; we can:
 - Make informed choices about portfolio design that recognize the related trade-offs; and,
 - Better understand whether a particular school is 'over' or 'under' performing relative to expectations

Secondary Reform Plan – Selected Analysis

Summary - Continued

System Design and Its Impact on Graduation Rates

- Specific strategies will be included to address individual school and system-wide benchmarks
 - In schools with inadequate predicted graduation (below 50%) we will implement structural changes through system policies to create more favorable conditions (e.g. size and student concentration)
 - In schools with adequate predicted graduation but where actual performance falls below predicted levels we will implement programmatic changes (e.g. instructional practices, programmatic offerings, leadership)
- Portfolio design and implementation strategies will include both school level and system wide strategies

System Complexity and Dynamics

- System design exists in a dynamic and changing environment, over the past few years there have been many changes:
 - A focus on literacy and numeracy in Middle school that has shown improvement
 - Change in High School admissions process to create greater equity
 - Closure of some of the lowest performing schools
 - The launch of 200 New Small Schools which show improved Freshman year credit accumulation and higher than predicted graduation rates

Potential Next Steps

- Current analysis has highlighted several issues that warrant further quantitative assessment and/or integration with broader reform efforts:
 - Need for follow-on analysis of specific elements core to the secondary planning process
 - Deeper investigation of ELL and SPED student population and progression through the K-12 system
 - Support for the ongoing Accountability implementation efforts and integration with broader secondary planning strategies

Secondary Reform Plan

- Situation Assessment (Selected Analysis)

- **Targets and Proposals for Secondary Reform**

Targets and Proposals for Secondary Reform

Reform Will Increase Graduation Rate Through a Portfolio of Specific Strategies Supported by System-Wide Levers of Change



- System-wide programmatic emphasis on increased personalization of school cultures and academic rigor
 - Specific need for high engagement of and academic support for underperforming students (e.g. intensive recuperative literacy and numeracy/math)

Leadership

Empowerment

Accountability

- Three core Levers of Change provide the design and implementation basis of all programmatic strategies
- Alignment of all secondary strategies with accountability initiatives—In progress (progress report for High Schools and Transfer Schools)



Portfolio of Strategies to Increase Graduation Rates

Transform Existing Articulated High Schools

Increase the Number of New Small High Schools

Expand and Strengthen Multiple Pathways Portfolio

Targets increase in 4-year rate

Targets increase in 4-year rate

Targets increase in 6-year rate

Targets and Proposals For Secondary Reform

Three Core Levers of Change Will Shape The Entire System

Leadership

- Recruitment of talent
- Preparation models
- Leadership models for a differentiated portfolio of schools

Empowerment

- Greater authority for principals over budget/ resources, staffing , time
- Greater discretion for principals and teachers to adjust to student needs by choosing from among proven program designs
- Clear guidelines for maintenance of district standards
- Instructional programs underpin empowerment philosophy

Accountability

System Performance and Improvement

- Movement towards stated targets
- Measured success within specific target groups (e.g. student sub-groups)
- Measures success within specific portfolio segments

Programmatic Models and Actions

- Progress towards implementation metrics and milestones Progress towards programmatic goals and desired outcomes
- Promotion and graduation success at school- level and within target student segments

Instructional

- Implementation success
- Effectiveness of instructional strategies vis-à-vis outcomes with target student groups

Targets and Proposals For Secondary Reform

Generate Better Conditions for Schools To Achieve Success With Level 1 and Low Level 2 Students

Strategies to Reduce the Concentration of L1/LL2 Students

- School closure
- Changes in school admissions / enrollment targets
- Targeted push-in of new programs to recruit medium performing students

Strategies to Decrease the Effect of Size

- New Small Schools
- Small Learning Communities

Targets and Proposals for Secondary Reform

Proposed Criteria for Closure Decisions

Initial Data Screen Applied to All High Schools

Primary Indicators:

- **Overall Graduation Rate:** Screen for schools whose outcomes in the aggregate are dramatically below the system-wide average
 - *Potential benchmark:* Schools with four-year rate of **50%** or less
- **Preventive Power with Low-Level Readers:** Identify schools that generate OA-UC students at a rate higher than the system average
 - *Potential benchmark:* Schools at which 65%+ of Level 1/Low-Level 2 students become OA-UC
- **Recuperative Power with OA-UC Students:** Reveal schools that have particularly low ability to move OA-UC students back on-track
 - *Potential benchmark:* Schools with OA-UC graduation rate less than **20%**

Other Possible Metrics:

- Could include: Attendance, Safety, Admissions demand, Adjusted Performance Level, etc.

Further Qualitative and Data Analysis for Schools Identified by Initial Screen

- **Qualitative Assessment:** Evaluation of school leadership, school culture and environment, instructional/curriculum strategies, and other factors
- **Data Analysis of Leading Indicators:** Examine credit accumulation trends (and other factors) in recent freshman classes to determine whether or not school is improving



Ultimate decision will begin with objective data-driven standards, but be based on both qualitative and quantitative considerations

Targets and Proposals for Secondary Reform

Graduation Rate Increases Will Be Achieved Through A Portfolio of Strategies Designed To Meet Differentiated Student Needs

Portfolio of Strategies to Increase Graduation Rate

Transform Existing Articulated High Schools

Targets increase in 4-year rate

- **Instructional Improvement**
 - Adolescent Literacy
 - Mathematics A
 - Academic Interventions
 - Special Needs Students (ELL, SPED)
 - Curriculum Design
- **Personalizing Structures**
 - SLCs
 - 9th grade redesign
 - Extended Time/Day/Year
- **Strengthen & share practices** of “Exceptional Performer” schools to inform strategies for “Mid-Performing” schools

Increase the Number of New Small High Schools

Targets increase in 4-year rate

- Continue **replacement of failing schools** with new small schools

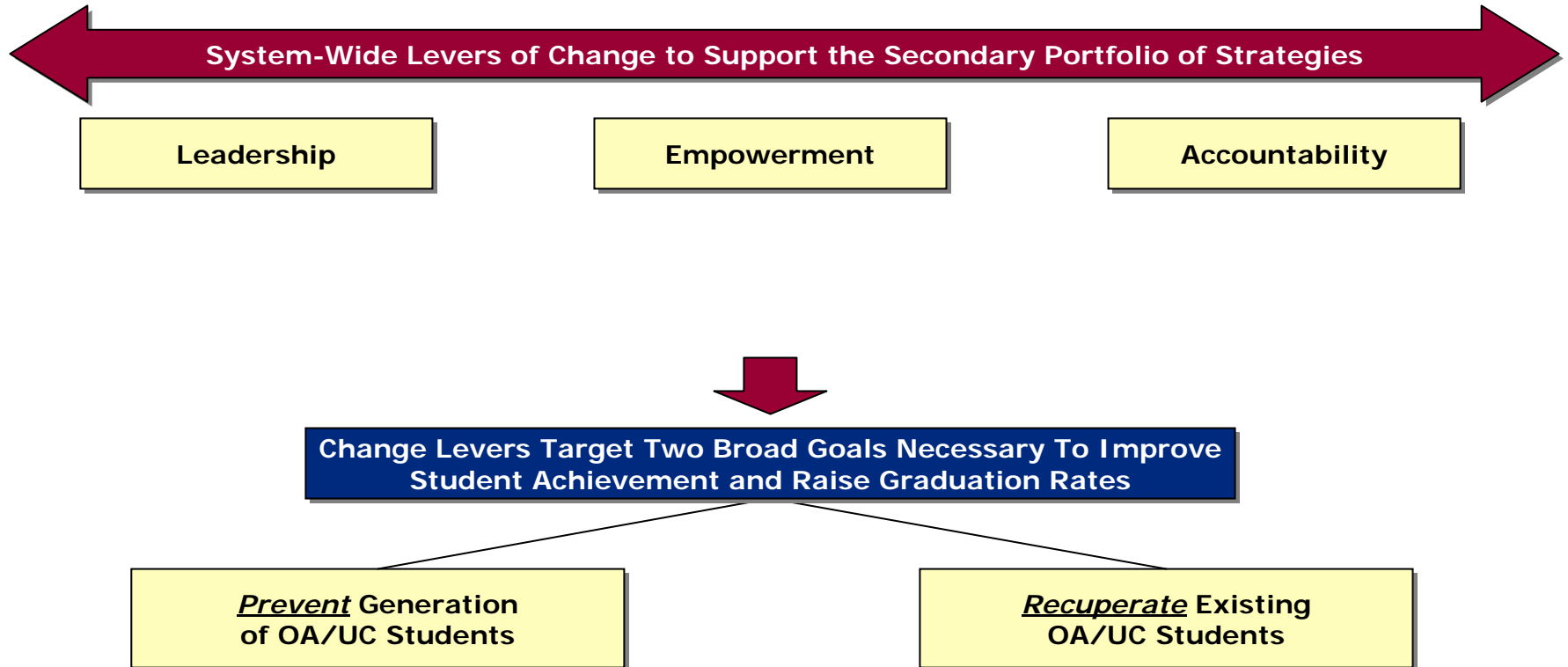
Expand and Strengthen Multiple Pathways Portfolio

Targets increase in 6-year rate

- **Codify and expand** new Transfer School models
- **Pursue innovative model development** for new GED strategies
- **Refine and grow** YABC model

Targets and Proposals for Secondary Reform

Change Levers Will Be Infused in Strategies for Prevention and Recuperation Measures with Respect to Overage and Undercredited Youth



Targets and Proposals For Secondary Reform

Portfolio School Designs and Instructional Strategies Will Enable Targeting of Specific Student Needs

School Designs

- Replicate conditions of small schools through personalization and effective design principles

Instructional Strategies

- Specific instructional initiatives aimed at reaching target student groups

Illustrative Examples

Preventative

- New Small Schools
- Small Learning Communities (SLCs)
- School Closure

- Adolescent literacy programs
- AP and college-readiness initiatives
- SPED & ELL improvements
- Cross-curricular programs (CTE, Early College, etc.)

Recuperative

- Transfer Schools
- YABCs
- Redesigned GED Programs

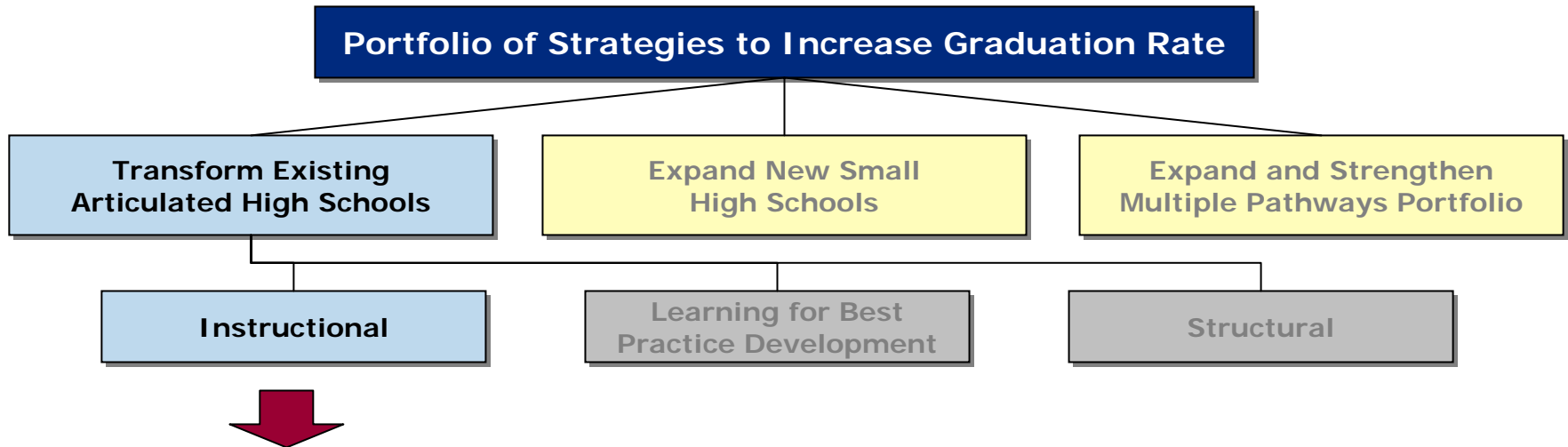
- Literacy across the curriculum
 - Specialized literacy
- Recuperative math program
- SPED & ELL improvements

Levers of change are a prerequisite for supporting program elements

- Empowerment
- Leadership
- Accountability

Targets and Proposals for Secondary Reform

Transformation of Existing Articulated HS Will Strengthen and Replicate Preventive Powers With L1 and LL2 Students



SYSTEM-WIDE INVESTMENT IN INSTRUCTIONAL STRATEGIES TO RAISE ACHIEVEMENT OF ALL UNDERPERFORMING STUDENTS, WITH DIFFERENTIATED SYSTEM FOCUS ON LEVEL 1/LOW-LEVEL 2 STUDENTS, ELL AND SPED STUDENTS

• Content

- Strengthened Adolescent Literacy Approaches - Series of double-period courses that seek to accelerate struggling readers who are two or more years behind grade level.
- Mathematics A - Ensuring a successful transition from middle school to high school and identifying and targeting support, both academic and structural, for struggling students.
- Curriculum Design - Includes units of study (interdisciplinary), Understanding by Design, Curriculum Mapping (6-12).

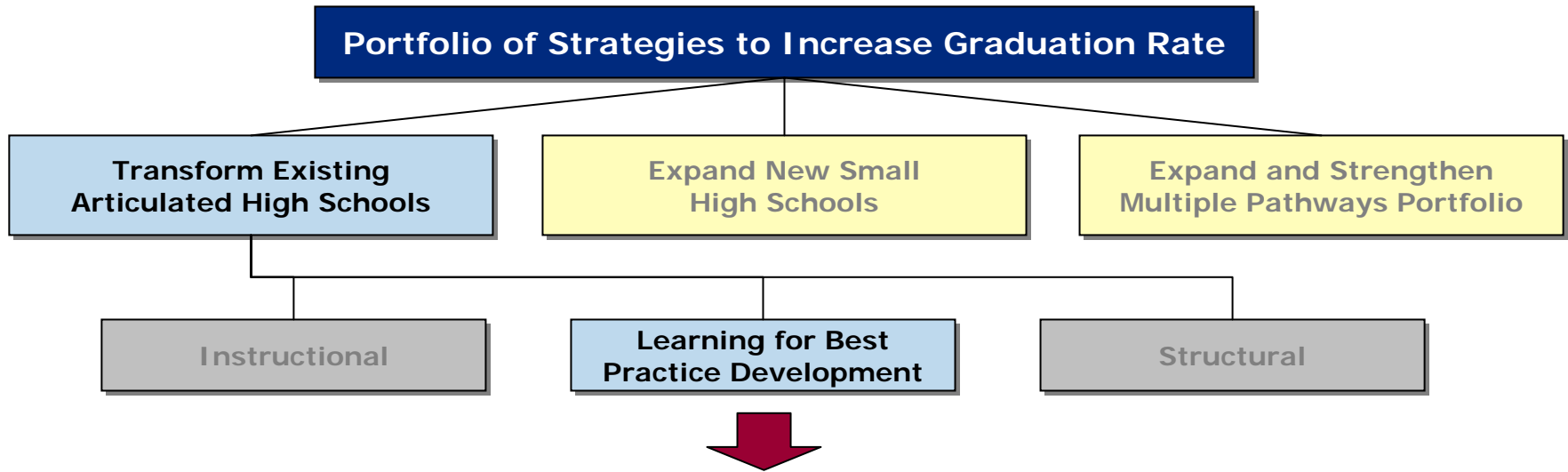
• **Academic Interventions** - Comprehension Strategy Instruction, Fluency Building (including Great Leaps, Focus on Fluency; Soliloquy; Quick Reads; Method of Repeated Readings) and Phonics Development

• **Special Needs** – Move from Self-Contained Special Education to LRE

- Special Education – Includes Schools Attuned, Wilson Reading, PBIS and CTT (80% of all Sped students) system-wide.
- ELLs – Includes ELL Prof Dev, Summer and Extended Day, and ELL Grants and Programs (systemic – includes all ELLs and SIFE students).

Targets and Proposals for Secondary Reform

Transformation of Existing Articulated HS Will Strengthen and Replicate Preventive Powers With L1 and LL2 Students

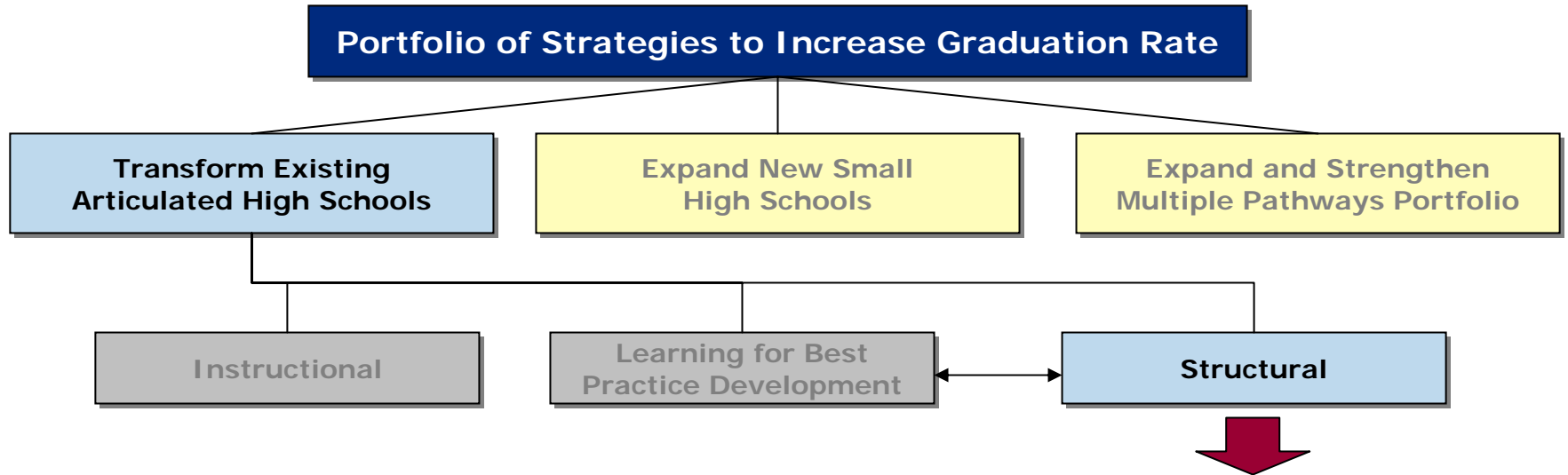


TARGETED INVESTMENT TO GENERATE "PROOF POINTS" OF SUCCESS WITH L1/LL2 STUDENTS IN LARGE/MEDIUM ARTICULATED HS THAT BEAT SYSTEM AVERAGES

- Select 10-15 "exceptional performer" schools with L1/LL2 entering 9th graders (varied level of challenge per concentrations)
 - Increase public and private funds to exceptional performers to deepen and adapt practices and theories of action
 - Principal sets stretch targets for improvement and agrees to performance contract
 - Principal articulates and documents leadership, instructional, and youth development strategies (e.g., SLC, SAM leadership model)
- DOE and foundations provide funding to deepen and expand strategies

Targets and Proposals for Secondary Reform

Transformation of Existing Articulated HS Will Strengthen and Replicate Preventive Powers With L1 and LL2 Students

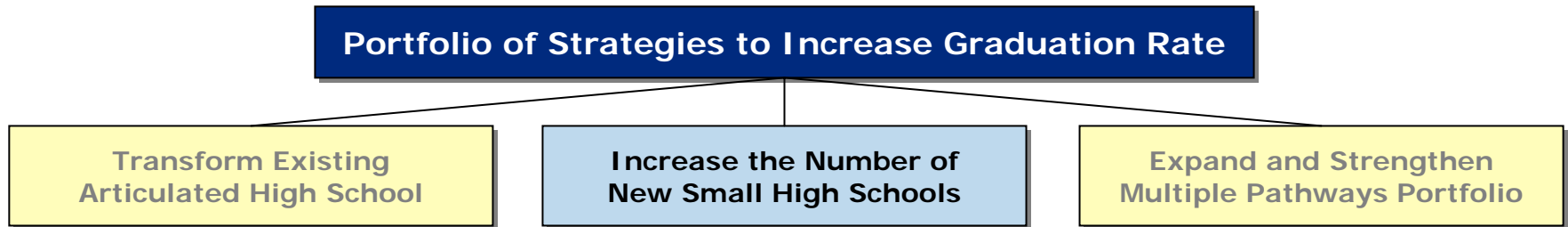


SCALE UP “PROOF POINTS” TO RESTRUCTURE UP TO 60 MID-PERFORMING LARGE SCHOOLS WITH THE FOLLOWING CONDITIONS:

- Principals identify school(s) with similar conditions in “Beat the Odds” category and learn from and adopt effective practices such as --
 - Small Learning Communities
 - Initiative organized by principal choice, performance targets and agreements, and knowledge-sharing.
 - Leadership – Scaffolded Apprenticeship model
 - Ninth Grade Redesign - 9th grade academies - especially for at-risk students. These academies often included reduced class sizes, alternative scheduling, extended day, strategic tutoring, focus on literacy and content literacy.
 - Extended Day and Extended Year Program - providing Extended Day Regents Examination Preparation, and Credit Recovery opportunities.
 - Expand public and private funding for specialized programs, including AVID, AP Initiative, National Academies, and Gateway to Higher Education
 - Expand public and private funding to increase access to post-secondary counseling and options – expand College Summit, College Now
 - Transitions from 8th grade to 9th grade—Summerbridge

Targets and Proposals for Secondary Reform

Reform Will Increase Graduation Rate By Growing The Number of New Small High Schools

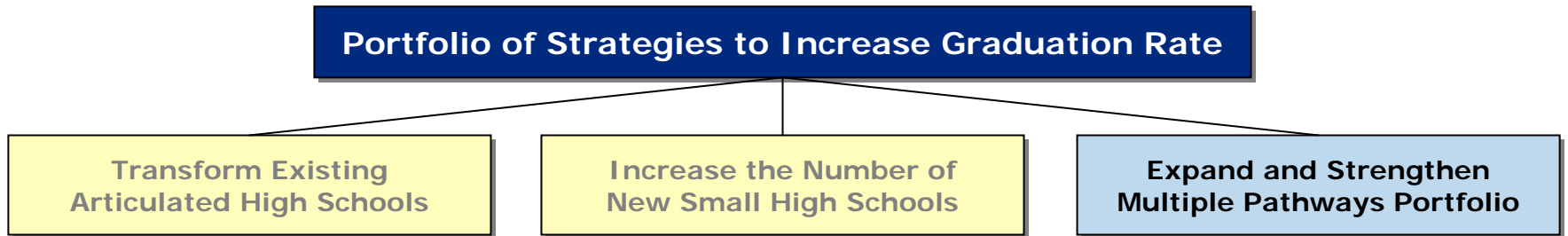


- Open new small schools to replace low performing secondary schools (estimated need at 150 new small schools)
- Maintain design elements of effective schools as planning model
- Foster sustainability: Strategies include distributed leadership model, partnerships, and sharing of best practices across system
- Continue School Development/Intermediary Partnership strategy
- Expand charter school strategy to high schools
- Maintain new school intensive leadership development program including coaching program
- Continue Aspiring Principal track in Leadership Academy and partnership with New Leaders for New Schools
- Cross-curricular programs (CTE, Early College, etc.)

Raise graduation rates of Level 1 and Low-Level 2 Students

Targets and Proposals for Secondary Reform

Reform Will Increase Graduation Rate By Expanding and Strengthening the Multiple Pathways Portfolio



- Implement expanded Multiple Pathways portfolio of transfer schools, YABCs, and redesigned GED, all of which will also include deliberate vocational enhancements
 - Invest significantly in new Transfer School capacity (codification and expansion)
 - Focus on improving mid- and low-performing Transfer Schools
 - Continue expansion and refinement of YABC models to reach level of estimated demand
 - Invent new models for GED Programs

Increase system-wide six-year graduation rate by 5% (assuming full operational scale of MP expansion goals)

Multiple Pathways Capacity-Building Strategy

Expansion Strategy Will Create 86 New Schools and Programs from Fall 2006 – Fall 2011...

- In addition to already-completed capacity-building, Multiple Pathways programs will create:
 - 30 new transfer schools
 - 7 new GED programs
 - 6 new YABCs
 - All 43 new schools and programs will also include Learning-to-Work

Year Opened	Transfer Schools 200 seats	GED Programs Varies (200 seat average)	YABCs 250 seats	LTW (TS/GED/YABC) Varies
<i>2005-06 (Completed)</i>	0	3	9	15 (6 / 0 / 9)
2006-07	1	3	3	7 (1 / 3 / 3)
2007-08	5	3	3	11
2008-09	5	1		6
2009-10	5			5
2010-11	7			7
2011-12	7			7
Total Programs	30	7	6	43
Total Seats	6K	1.4K	1.5K	

Targets and Proposals for Secondary Reform

Achieving Aspirational Graduation Rates: Contributions from Portfolio of Strategies

Potential Increase in System Graduation Rate Toward Aspirational Targets

