Reason
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A

Weighted Student Formula Yearbook

Hartford

by Katie Furtick & Lisa Snell

Hartford Public School District

Program Name: Weighted Student Formula
Implementation: 2008–2009
Program Type: District-Wide Program
Legal Authorization: School Board Policy

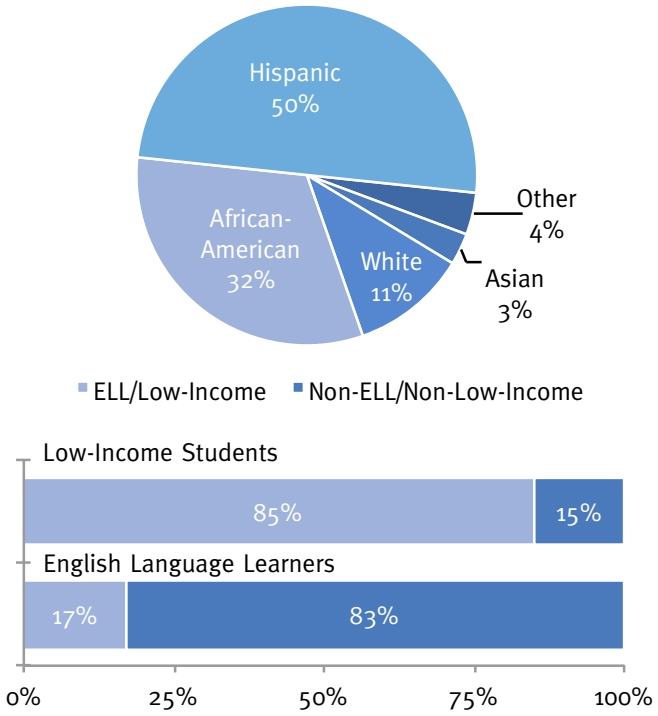
Overall Grade: A

Category	Grade	Rank*
Overall Grade **	A	2
Principal Autonomy	B	9
School Empowerment Benchmarks	A	6
2011 Proficiency Rates	C-	12
Proficiency Rate Improvement	A	1
Expected Proficiency vs. Actual	C+	8
Expected Proficiency Improvement	C-	12
2011 Graduation Rates	A	3
2011 Achievement Gaps	C-	12
Achievement Gap Improvement	A	1
Achievement Gap Closures:		
■ *Internal District*	A	1
■ *Internal District vs. Internal State*	A	1
■ *External Achievement Gaps*	B-	7

* Tied with Baltimore Public Schools, Boston Public Schools, Denver Public Schools, Houston Independent School District, Minneapolis Public Schools, and Newark Public Schools for "School Empowerment Benchmarks."

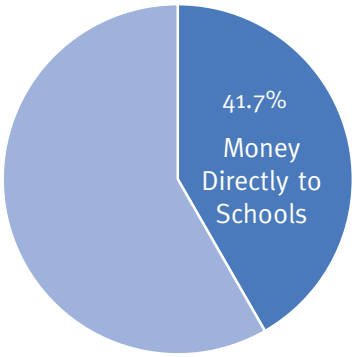
** Overall grades and ranks may not equal the average of individual grades and ranks because categories are weighted differently to reflect their importance.

Demographics



Source: State of the Schools: Improving Student Opportunities and Outcomes in Hartford Public Schools

2012–2013 Principal Autonomy



Source: Hartford Board of Education 2012–2013 Adopted Budget

School Empowerment Benchmarks

School budgets based on students not staffing	Yes
Charge schools actual versus average salaries	No
School choice and open enrollment policies	Yes
Principal autonomy over budgets	Yes
Principal autonomy over hiring	Yes
Principal training and school capacity building	Yes
Published transparent school-level budgets	Yes
Published transparent school-level outcomes	Yes
Explicit accountability goals	Yes
Collective bargaining relief, flat contracts, etc.	Yes

HPS Met 9 out of 10 School Empowerment Benchmarks

1. Overview of Hartford's Weighted Student Formula Program

In the 2012–13 school year Hartford Public Schools (HPS) enrolled 21,356 students at approximately 49 schools. The district's student demographics include 50 percent Hispanic students, 32 percent African-American, 3 percent Asian, 4 percent biracial, and 11 percent White. Eighty-five percent of the students qualify for free or reduced lunch and 17 percent qualify as English language learners.[1]

In 2008 the Hartford school board approved a new three-year strategic plan to improve outcomes for every student in the district.[2] The district's strategic plan outlines two complementary pillars established by the Board of Education: a "managed performance empowerment" (MPE) approach that defines the district's relationship with each school on the basis of its performance, and development of an "all choice" system of schools that creates and sustains a larger number of high-performing schools.

1. The MPE approach assumes that schools must have both autonomy and accountability to promote higher performance. It rewards effective teaching and leadership by creating a direct relationship between a school's academic performance and its operational autonomy. High-performing schools make all key staffing decisions and decide how the school's resources should be allocated. They are entitled to this level of autonomy as long as they are achieving results in terms of student achievement. Schools whose students do not achieve proficiency in testing are subject to increasing levels of intervention from the central office. If no improvement occurs, the school is redesigned and replaced with a higher performing school model. The exchange of autonomy for accountability is an essential idea in this theory of change. If school leaders are to be responsible for results, they must have authority to manage the inputs and processes that determine those results.
2. An "all choice system" means that all families have a greater opportunity to decide where their children attend school. It rests, in part, on the recognition that the act of making an educational choice helps to inspire commitment among students and families. Choice also recognizes diversity in learning interests, needs and values. Encouraging students to pursue their interests is an important way to tap learning potential. Small schools specializing in subject matter like law and government, engineering, nursing and global communication are an important component of new school development because the opportunity to choose and pursue a particular course of study often engages and motivates students in ways that more generalized programs do not.

Given the wide range of performance of Hartford public schools, the district defines each school's level of autonomy based on student achievement.

- High-performing and significantly improving schools earn autonomy.
- Low-performing schools are subject to district intervention or redesign or replacement.

- New and redesigned schools are granted autonomy conditioned upon continuous improvement of student achievement.

The school board's overall goal is for Hartford Public Schools to evolve over time to a total system of high-performing schools driven by student and parental choice.

In 2011, Hartford launched the second phase of its reform through the district Strategic Operating Plan for 2011–2016, which sets priorities and identifies goals, strategies and tactics to accelerate and sustain the district's reform work. The new strategic plan has three overarching goals:[3]

- Third Grade Promise: All students who enter a Hartford public school at grade Pre-K or K will read at or above grade level by the end of third grade.
- Middle Years Redesign: All middle grades students will demonstrate sustained performance gains that will prepare them for the rigor of a college-ready high school curriculum.
- College Readiness: All students earning a Hartford Public School diploma will demonstrate college readiness.

A key component of Hartford's reform agenda included the introduction of a student-based budgeting (SBB) methodology known as "weighted student funding" (WSF). This program enables schools to fund students based on their educational needs. Student-based budgeting creates equity in the allocation of available resources through a uniform system in which each student is funded by an appropriate grade-level allocation with the funding adjusted on the basis of educational needs. These resources then follow the child to the school the parent chooses.

Specifically, SBB increased funding at 25 historically under-funded schools based on the students that attend those schools. Prior to 2008, 50 percent of Hartford's schools were spending $4,000 to $7,000 per pupil while the other 50 percent were spending anywhere from $7,000 to $18,000 per pupil. This was a potential gap of $14,000 per student.

In addition, before student-based budgeting, Hartford Public Schools budgeted for most teachers in terms of positions rather than how much they actually cost. As a result, for example, two schools' enrollment levels give them each 100 teachers, but if the teachers at one school have average salaries of $70,000 and teachers at the other school have average salaries of $60,000, then the district will have provided $1 million less resources to the school with lower average teacher salaries.

The main goals of student-based budgeting for Hartford Public Schools include:

- SBB will equitably allocate funding to each student based on his or her educational needs by utilizing the weighted student funding formula. SBB will directly link the budget to student achievement.

- School leaders and members of the community know best what their schools need for their students to achieve. SBB will provide greater opportunity to schools and communities to make the best choices for their students and their success.
- SBB will be transparent and eliminate many complex staffing ratios and provide funding through a simplified allocation. Instead of hiding the difficult choices inherent in budgeting, the new formula brings those choices out into the open for all to see and evaluate.

SBB was phased in over a three-year period beginning in FY08–09. This provided schools the opportunity to plan for any major shifts in funding. Each year schools were to be allocated one-third of their gain or loss from the formula implementation until equity is achieved.

Hartford Public Schools publishes very detailed school-level budgets that report the student populations at each school as well as the funds generated by each group of students. The school-level budgets also include the school's performance data.

This ratio, in which central office and central services are limited to 30 percent of the budget, is reflective of the national average for public school districts and contrasts to less than one-half of resources spent in schools and classrooms by Hartford Public Schools in 2006–07. The district achieved this goal with a 20 percent reduction of central office expenses including the reduction of over 40 current district-level positions.

A 2012 report by Public Impact found that since implementation of student-based budgeting the allocation of school funding has become more equitable, both in providing schools with the same amount of funding for students with the same characteristics, and in allocating more funding for students with greater need.[4] Schools enrolling the highest concentrations of English language learners, special education students, and low-performing students received modestly more funding under SBB than schools enrolling the lowest concentration of those students, an improvement over the pre-SBB period.

2. How Does Hartford's Student-Based Budgeting Program Work?

For Hartford Public Schools SBB means that:

- Funding follows each student to the school that he/she attends;
- Each student receives funding based on his/her educational needs;
- Schools have greater flexibility on how to allocate their funding, with greater responsibility for dollars and greater accountability for results;

- Key decisions are based on clear criteria linked to the school improvement plan and the MPE approach.
- Schools are required to focus their funds on strategies to improve student achievement aligning with the school and district improvement plans.

Student-based budgeting makes spending flexible to allow for real budget planning. In the past schools were given line item allocations determined by the central office for staff and programs in their schools.

Using the SBB formula, dollars are allocated to schools through two basic categories:

- Grade weights, based on student grade levels;
- Needs weights, based on student needs.

The district provides every student with a base weight determined by grade level. Grades 9–12 are funded at a slightly higher level than grades K–5 for several reasons: older students tend to have higher costs for non-personnel (such as more costly science materials), they often take electives that break into smaller classes, and their schools often require more administrative personnel. This approach is consistent with the district's historic funding practices and with practices in other cities.

All students receive WSF funding through grade-level weights. Schools with nontraditional grade configurations will receive their base weight funding in more than one category. For example, a K–8 school will receive the K–5 weight for the K–5 grades and a 6–8 weight for the 6–8 grades. A sixth grader carries the same weight whether at a 6–8, a K–8 or a 6–12 school.

In addition, starting in the 2008–09 school year, students are eligible for needs-based weights for the following characteristics:

- Academic intervention, based on poverty for schools beginning before fourth grade and achievement for schools beginning in fourth grade or later.
- English language learner status
- Special education

The district believes that the best way to identify students with greater need is to look at their past achievement. Therefore, to the extent possible, Hartford relies on student achievement data—results on the Development Reading Assessment (DRA), Degrees of Reading Power (DRP), Connecticut Mastery Test (CMT) and Connecticut Academic Performance Test (CAPT) exams to identify students eligible for additional funding.

Table 1: Hartford Public Schools 2013–2014 Weighted Student Funding Formula

	Base Allocation	K–K1 $6,000 0.96	K2 $6,333 1.00	1st–3rd $7,599 1.20	4th–5th $7,035 1.00	6th–8th $6,966 1.10	9th–12th $8,232 1.30
	Special Education	Level 1 $4,496 0.71	Level 2 $7,282 1.15	Level 3 $13,425 2.12	Level 4 $22,797 3.60		
	English Language Learners	0–20 Months $2,723 0.43	20– 30 Months $1,393 0.22	30+ Months $697 0.11			
	Academic Intervention *	K–3rd Below Proficient $1,267 0.20		5th–11th Below Proficient $1,013 0.16			
A+	Advanced Ability	Gifted/Talented (4th–12th) $633 0.10					

Source: Hartford Board of Education, *Hartford Public Schools Superintendent's Recommended Operating Budget FY 2013–14*, Hartford Public Schools, April 9, 2013. http://www.hartfordschools.org/files/Finance/2013-14%20Budget%20Book%20for%20the%20Web.pdf.

* K–3rd grade proficiency based on Connecticut's Development Reading Assessment (DRA). 5th–11th grade proficiency based on Connecticut Mastery Test (CMT), Degrees of Reading Power (DRP), and the Connecticut Academic Progress Test (CAPT).

Achievement Weight: At schools beginning in fourth grade or later, students receive additional weights based on their achievement. There are two funding levels—a higher achievement weight for students "well below standards," and a lower one for students who are below grade level, but closer to proficiency ("below standards"). Scores are based on the last test result before the student enters his or her current school. Additional funding will be provided to those students designated as "gifted and talented."

The achievement weights and corresponding funding are as follows:

- DRA (K–3rd grade) Below proficient is 0.20 or $1,267 per pupil
- CMT/DRP/CAPT (5th–11th grade) Below proficient is 0.16 or $1,013 per pupil
- Gifted and talented (4th–12th grade) is 0.10 or $633 per pupil

English Language Learners: Eligibility is determined through a preliminary assessment with a home language survey.

The ELL weight and corresponding funding are as follows:

- 0–20 months: 0.43 or $2,723 per pupil
- 20–30 months: 0.22 or $1,393 per pupil
- 30+ months: 0.11 or $697 per pupil

Special Education is weighted based on the level of service for each special education child. There is a range of weights from children who are 100 percent mainstreamed in the general education classroom at 0.71 ($4,496) weight to students who must be in a self-contained class with no more than five other students at 3.60 weight ($22,797).[5]

3. How Much Autonomy Do Hartford Public Schools Enjoy?

There are two ways to view school-level autonomy. First, autonomy at the school site can be evaluated by budget discretion—what proportion of funds sent is to the schools versus retained at the district level? Second, one can evaluate by planning discretion—how much control over staffing and programmatic offerings do principals have?

The letter grade given to school districts in the *Weighted Student Formula Yearbook* indicating the level of autonomy over school budgets is based on the percentage of yearly operating funds that are allocated to the school level. The higher the percentage of operating funds allocated to the school level, the greater budget autonomy the principal enjoys.[6]

Combining both unrestricted and restricted operating funds, Hartford schools received 41.7 percent of funds through student-based budgeting allocations, giving Hartford Public Schools a "B" in principal autonomy.

Hartford Public Schools principals also have discretion over staffing decisions and a collective bargaining contract, ratified in 2008, which allows flexibility for longer school days or years and more control over scheduling, such as block scheduling.

4. How Does Hartford Public Schools Support Principals?

In the district's strategic plan the school board acknowledges that effective principal leadership is one of the most significant factors that promote student achievement. The district is making a strong commitment to principal leadership training through more intensive professional development and principal mentors to help new school leaders. The district will also measure principals' performance on the district's "school leader rubric" and require each principal to be in the effective range by the principal's third year. Principals can receive bonuses up to 25 percent of their contracts for raising student achievement at their individual schools.

Since 2011 schools have been organized in teams under a Portfolio Director. Each Portfolio Director manages a cross-departmental team of leaders accountable for the success of the 6–10 schools within his or

her portfolio. Each team consists of a curriculum director, intervention specialist, special education director, English-language learner coordinator, staffing specialist (talent management) and budget advisor.

5. The Site-Based Management of Hartford's Public Schools

All autonomous schools establish "school governance councils" (SGCs). The SGCs annually approve a school budget aligned to the school's accountability plan. These decision-making bodies are made up of parents, school staff and community members. The district provides training for parents, students and school leadership at autonomous schools to ensure the understanding of the role of SGCs.

6. The School Choice Component of Hartford's Weighted Student Formula Program

Hartford Public Schools provides an "all choice" system of schools. Students will be equitably funded according to their needs and these funds will follow the students to their schools of choice. In 2006–07, only 13 percent of the seats in Hartford schools were open choice seats for Hartford students. Today, every Hartford student can select into and receive transportation to any school within his or her geographic zone. In addition to zone choices, 20 magnet schools are available for citywide choice.

The district employs two choice models:

1) Inter-district choice schools, which provide regional opportunities for the integration of city and suburban students.
2) Intra-district choice schools, which provide preference to students of their neighborhood with remaining seats available to other Hartford students. Parents have the option of a greater number of schools within transportation zones. Within the portfolio of choices available there are a number of external providers or public and private school partnerships.

Hartford Public Schools has identified five criteria used by families in deciding which school to attend:

1) A school's track record of high academic achievement
2) Proximity to home
3) School design (school theme, course offerings)
4) Historical and traditional ties to the school, principal and teachers
5) Other personal family reasons

The Hartford school choice program operates under the assumption that while families and students make school choices based on what is personally most important to them, it is understood that all families want high-quality, high-achieving schools that will prepare their children for future success. Therefore, the district's directive is clear. Hartford must create new high-performing schools with a focus on state standards and college readiness. Using a diverse provider strategy, Hartford offers parents new choices among higher quality schools.

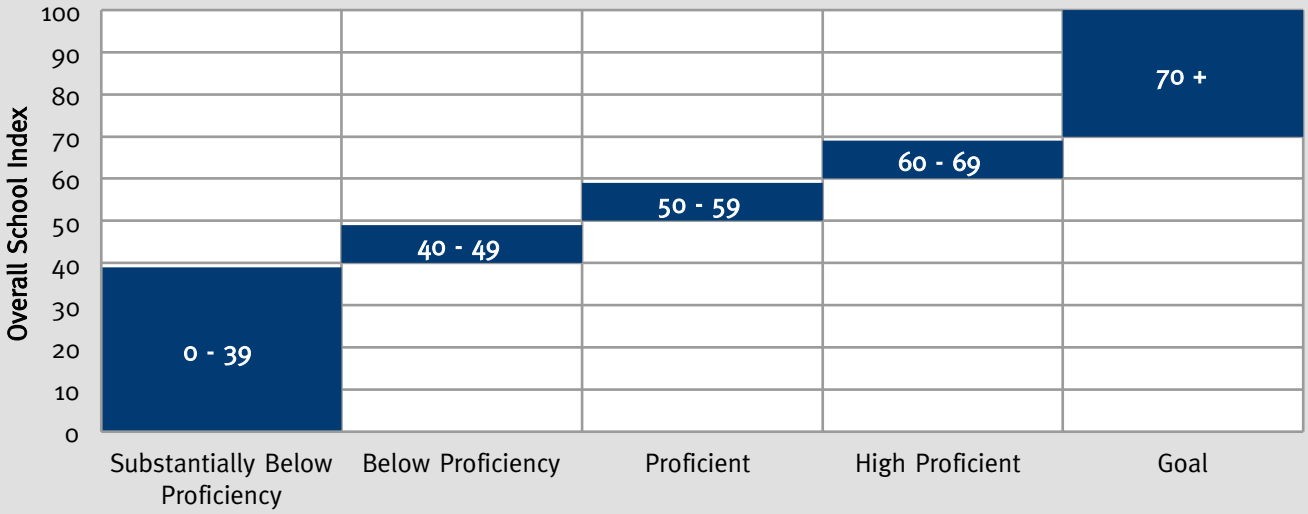
Since the 2006–07 school year, the district has had 34 school changes to improve school quality: redesigning 17 schools, converting 11 schools to magnet status, opening 3 new schools, and permanently closing 3 failing schools.[7] The district also encouraged the growth of its higher performing schools by enrolling more students in those classrooms. The quality schools referenced above (those with average percent proficient across reading and math exceeding the state average) are among the fastest growing schools in the district, increasing their enrollment by just over 10 percent in the 2012–13 school year.[8]

In 2008, Hartford added 11 new schools for parents to choose from including the Culinary Arts Academy, the Academy of Engineering and Green Technology, the Achievement First Hartford Academy, the Global Communications Academy, the Academy for Latino Studies, the Law and Government Academy, the Hartford Montessori Elementary School, the Nursing Academy, the Breakthrough II Magnet School, the Core Knowledge Academy at Milner Elementary School and the CommPACT School at M.D. Fox Elementary.[9] Then in 2009–2010 the district added nine additional new schools for students to choose from.

7. Initiatives to Increase School-Level Accountability in Hartford

As a component of the 2008 strategic plan, the Board of Education has adopted a "managed performance empowerment" approach based on beliefs about the conditions that best promote learning. Under this theory high-performing schools have the autonomy to make curricular, budget and other operational decisions while lower-performing schools are under the direction of a central office-based intervention team. Schools that consistently perform at very low levels are redesigned. School performance is determined using a measure called the "overall school index" (OSI). This metric includes all grades and content areas measured by state assessments. A school's OSI is calculated annually and used to place the school on the district performance matrix. Figure 1, below, shows the ranges of OSI scores.

Figure 1: Overall School Index Score Ranges



Source: Hartford Public Schools 2008 3-Year Strategic Operating Plan

In order to determine a school's level of autonomy, the current year OSI and the change in OSI from the previous year is used. In addition to the OSI the district annually sets nine targets in key performance areas focused on closing the achievement gap between Hartford and the state of Connecticut. These targets are set annually and designed to demonstrate how Hartford schools will close the achievement gap by making incremental gains over the span of a child's school experience. The nine key performance targets are:

- Grade 3 Reading
- Grade 4 Mathematics
- Grade 5 Writing
- Grade 7 Math
- Grade 8 Science
- Grade 10 Reading and Writing
- Graduation Rate (using National Governors Association method)
- Post-Secondary Enrollment: (at two- and four-year institutions)
- Improvement of School Performance (OSI)

Both the OSI and performance targets are used by the district data team and Board of Education to measure progress toward improving schools and closing the achievement gap.

The district also uses a performance pay system to increase accountability and improve student achievement. In 2008 the Hartford Board of Education unanimously ratified two new collective bargaining agreements with the Hartford Federation of Teachers (HFT) and the Hartford Principals and Supervisors

Association (HPSA). These national precedent-setting contracts include merit-based incentives and signify strong teacher and administrator support for the continuing Hartford's school-reform movement.[10]

Each school has the option to participate in a merit-based bonus when an increase to the overall school index (OSI) is achieved. The OSI incentive system starts when 75 percent of teachers at each school support the merit system. The teachers are eligible for a $2,500 bonus based on increases in assessment and overall school ranking. In addition, Hartford is piloting a "teacher advancement program" (TAP) that includes rewarding teachers on an individual basis for "adding value" to student achievement. In addition, principals are eligible for bonuses of up to 25 percent of their contracts for demonstrating an annual increase against the overall school index.

8. Performance Outcomes in Hartford Public Schools

While compiling this *Weighted Student Formula Yearbook*, Reason Foundation conducted an analysis to determine how the school districts that have adopted a Weighted Student Formula are performing relative to other districts in their state, and relative to each other.

Reason's analysis grades 10 performance metrics. Scores are determined by comparing the school district in question—in this case Hartford—with other school districts in the same state (Connecticut, in this instance), and sorting them into a decile ranking. Based on the school district's decile rank within its own state, the analysis then compares it with the other districts studied in this *Weighted Student Formula Yearbook*. Finally, the analysis assigns the studied school districts a grade based on how they measure up against one another. This analysis also grades and ranks studied school districts on two other measures: the number of school empowerment benchmarks the district has reached, and the degree of autonomy principals have over school budgets. In determining the grades on these two measures, districts are compared only with the other districts covered in this *Yearbook*. A detailed explanation of the methodology used to determine performance metrics and grading can be found in the methodology section of the *Weighted Student Formula Yearbook*.

Student proficiency rates, as determined by standardized state tests, and student enrollment data were used to calculate the following:

- 2011 proficiency rates;
- Improvement (average change) in proficiency rates from 2008 to 2011;
- Expected versus actual proficiency rates;
- Improvement in expected proficiency from 2008 to 2011;

- Achievement gap, and
- Each of three achievement gap closure metrics.

Hartford Public Schools proficiency rate data were obtained through Data Interaction, a website designed to provide educators, parents and the general public with student performance results on the Generation 4 Connecticut Mastery Test (CMT).[11] Elementary and middle school student proficiency rates in reading and mathematics derive from CMT results.

This analysis also discusses student achievement, including 2012 proficiency rates, but 2012 data were not included because in many school districts the data were not yet available at the time of analysis. Therefore, 2012 student achievement is mentioned, but not compared relative to other school districts in Connecticut and in the *Weighted Student Formula Yearbook*.

Graduation rates were collected from Data.gov based on adjusted cohort graduation rates at the school level for school year 2010–11 (most recent data available).[12] Four-year adjusted cohort graduation rates are calculated by state education agencies in accordance with U.S. Department of Education regulations on ESEA, Title I, published in 2008. Adjusted cohort graduation rates are reported for each school as a whole and for key sub-groups of students.

The grade given for school empowerment benchmarks is based on 10 benchmarks determined to be best practices within existing weighted student formula programs, and recommendations of other studies on student-based budgeting.

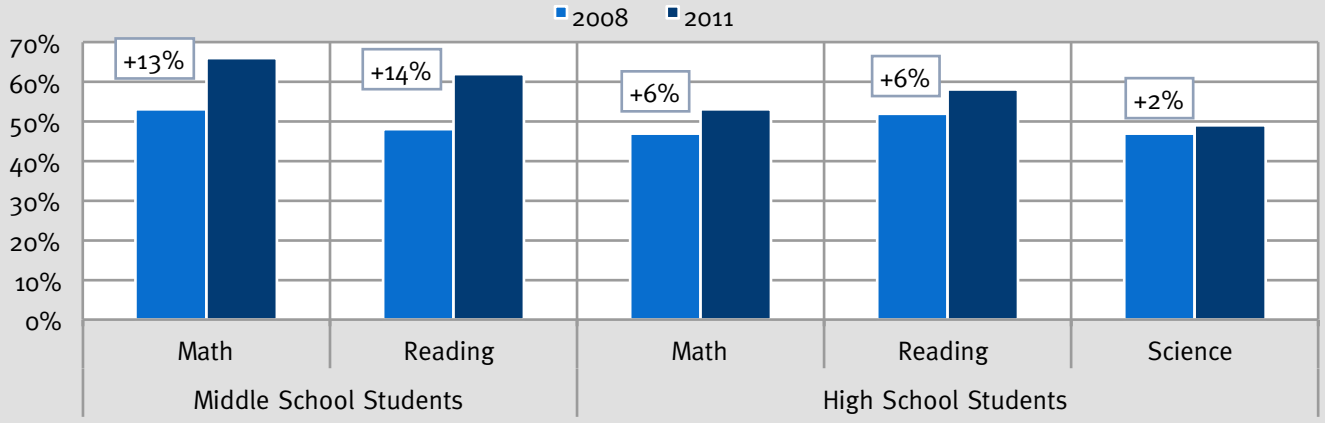
The following sections expand upon each graded category by highlighting areas in which HPS performed exceptionally well relative to other districts in Connecticut, and to other districts in the *Weighted Student Formula Yearbook*. This analysis also discusses areas in which Hartford Public Schools has fallen behind or could use improvement.

Student Achievement

Category	Grade
2011 Proficiency Rates	C-
Proficiency Rate Improvement	A
Expected Proficiency vs. Actual	C+
Expected Proficiency Improvement	C-
Graduation Rates	A

Hartford Public Schools is among the top 10 percent of Connecticut school districts for fastest improvement in mathematics and reading proficiency among high school and middle school students. The district had poor 2011 proficiency rates in these categories relative to other Connecticut school districts, placing Hartford among the bottom 10 percent of all Connecticut school districts. However, Hartford is among the top 10 percent of school districts for improvement indicating that the district is very quickly improving student proficiency rates, shown in Figure 2.

Figure 2: Overall Proficiency Rate Improvement



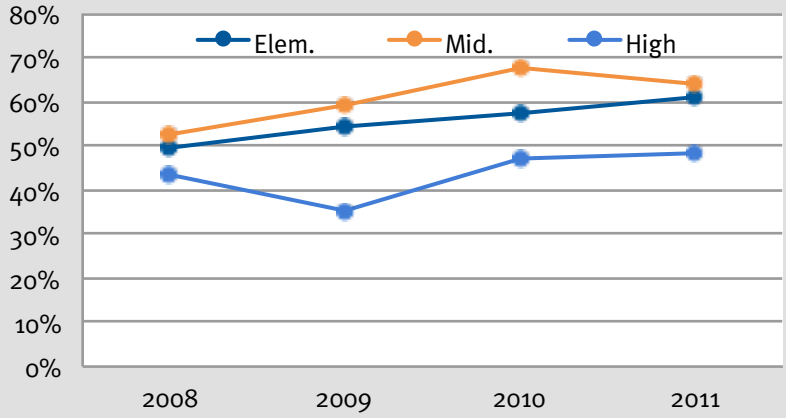
Source: Connecticut Department of Education CAPT Data Interaction

Disaggregating the student population, Hartford Public Schools is among the top 20 percent of all Connecticut school districts for fastest improvement in mathematics proficiency among African-American elementary and middle school students, shown in Figure 3. The district outperformed all other *Yearbook* school districts in these categories. Hartford also ranked among the top 30 percent of all Connecticut school districts for fastest improvement in mathematics proficiency among African-American high school students, and was the highest ranking *Yearbook* school district in this category.[13]

Hartford's Hispanic and low-income student population also showed a fast rate of improvement in a number of categories. Among Hispanic students, Hartford's improvement in proficiency is in the:

- Top 30 percent of Connecticut school districts for high school reading;
- Top 20 percent of Connecticut school districts for middle school reading, and
- Top 10 percent of Connecticut school districts for middle school math.

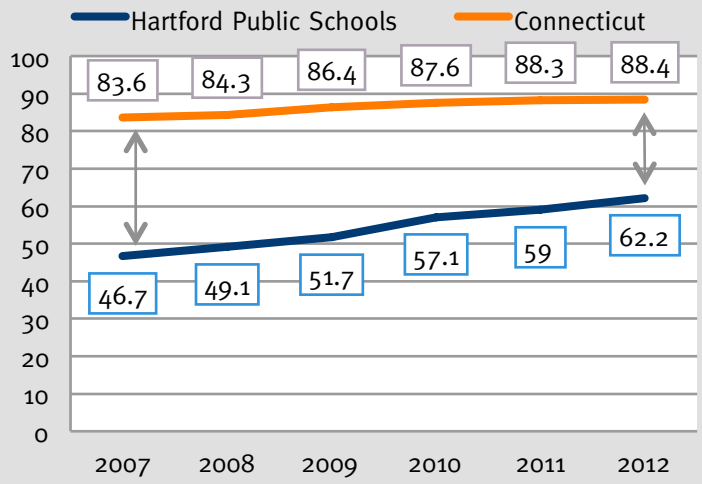
Figure 3: Proficiency Rate Improvement: African-American Students Mathematics



Source: CT Dept. of Education, CAPT Data Interaction

Among low-income students, Hartford is among the top 30 percent of Connecticut school districts for improvement in middle school mathematics proficiency, and among the top 20 percent of districts in improvement in high school reading proficiency.

Figure 4: Overall School Index Six-Year Growth



Source: HPS 2012 CMT and CAPT Preliminary Results

Hartford's own measure of success, the overall school index (OSI) further proves that the district has shown strong improvement over the past few years. HPS achieved its 5th consecutive year of OSI growth in 2012, gaining 15.5 OSI points since 2007, which is three times the state's rate of growth, shown in Figure 4.[14] According to CMT results, the largest reading achievement gains from 2011 to 2012 were in 4th, 5th, 7th and 8th grade.[15] In addition, science scores increased at "Goal Range" for all grades (5th, 8th and 10th).

Predicted or expected proficiency rates are calculated relative to all other school districts in Connecticut, controlling for the percentage of low-income students at each grade level. Generally, a large low-income student body is an indicator of low performance. By controlling for, or taking into account, the percentage of low-income students in each grade level across school districts this analysis can determine how well a given school district should be performing relative to others in their state.

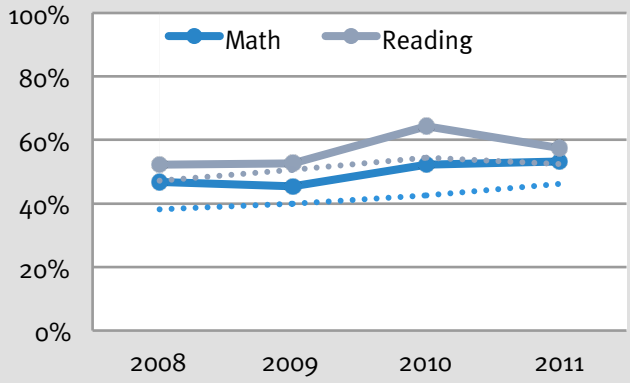
If the predicted proficiency rate is higher than the actual proficiency rate, then a school district is under-performing. In other words, the school district is not reaching its potential achievement level. If a school district's actual proficiency is above its predicted proficiency, the district is over-performing what is expected given the low-income student population.

Hartford Public Schools' actual proficiency rates outperformed predicted proficiency rates in mathematics and reading among high school students. Hartford was among the top 10 percent of all school districts in Connecticut for actual versus predicted proficiency rates in high school reading and mathematics. The district also outperformed all other *Yearbook* school districts in these categories.[16] This means that, after taking into account the percentage of low-income high school students in the district, Hartford's high school students' actual proficiency rates outperformed expected proficiency rates in mathematics and reading. Figure 5 shows actual versus predicted proficiency rates given the percentage of low-income high school students in the district. The solid lines show actual math and reading proficiency

rates among high school students, while the color-corresponding dashed lines represent predicted math and reading proficiency rates. Because the actual proficiency rates are above those predicted, the chart shows that Hartford high school student performance on state achievement tests was above expected performance.

Hartford is among the top 30 percent of all Connecticut school districts for 2011 graduation rates among African-American and low-income students. Based on adjusted four-year cohort graduation rates from Data.gov, in 2011, 74.8 percent of African-American students and 71.6 percent of low-income students graduated high school. These high graduation rates among Hartford's African-American and low-income students placed the district as one of the best performing districts for 2011 graduation rates relative to others in the *Yearbook*.

Figure 5: Predicted Proficiency Rates High School Students



Source: CT DOE, CAPT Data Interaction, Reason Analysis

Also, since 2010 (the first year that the district used the four-year cohort graduation rate calculation), Hartford has increased its overall graduation rate each year by about 1.5 percentage points—slightly faster than the state average.

HPS is reaching student achievement goals, set in 2011, for college readiness. According to the district's superintendent of schools, writing is a College Readiness anchor skill of great importance to freshman year success. These goals are being reached as Hartford's 10th grade students show consistent gains in writing scores with a 3.4 percent increase from 2011 to 2012.[17]

Also, a larger share of Hartford's high school students is taking the SAT. Between 2007 and 2011 a smaller share of Hartford seniors took the SAT than did students statewide. In an effort to boost SAT participation, Hartford Public Schools partnered with College Board to host free SAT testing to juniors and seniors in 2012. As a result, Harford surpassed the state share with 92 percent of the 2012 graduation class taking the SAT—an increase of 20 percentage points over the graduation class of 2011.[18]

Achievement Gaps

The following three achievement gaps are measured across all grade levels (elementary, middle and high school) and school subjects (reading, mathematics and science):

- African-American versus White student proficiency;

Category	Grade
2011 Achievement Gaps	C-
Improvement in Achievement Gaps	A
Achievement Gap Closures:	
Internal District	A
Internal District vs. Internal State	A
External Achievement Gaps	B-

- Hispanic versus White student proficiency, and
- Low-income versus non-low-income student proficiency.

Internal district achievement gaps (IDG) are measured as proficiency gaps between disadvantaged and non-disadvantaged student groups within a given district. Because internal district achievement gaps are measured for each district in the state, this analysis can rank relative size of achievement gaps across districts in the state, and determine how quickly those achievement gaps closed from 2008 to 2011.

An achievement gap is considered to be closing if the disadvantaged student group proficiency rate is increasing faster than the advantaged student group proficiency rate.

Hartford School District is closing many achievement gaps, and more quickly than most Connecticut school districts. Particularly, achievement gaps between elementary and middle school Hispanic and White students. Hartford is among the top 20 percent of Connecticut school districts for fastest closing achievement gap for reading proficiency among African-American elementary and middle school students. The district is also among the top 10 percent of fastest closing districts for mathematics and reading proficiency between White and Hispanic middle school students, and top 20 percent of fastest closing districts for reading proficiency gaps among Hispanic high school students.

Hartford ranks highest in several categories for fastest closing achievement gaps relative to other districts in the *Yearbook*. In addition to the categories mentioned above, Hartford ranks the highest relative to other *Yearbook* school districts for fastest closing achievement gap between African-American and White high school students in reading proficiency, and the achievement gap between low-income and non-low-income middle school students in both mathematics and reading proficiency.

In addition to internal district achievement gaps (IDG) discussed above, this analysis also measures internal district versus internal state (ID vs. IS) achievement gaps and external district achievement gaps (EDG).

Internal district achievement gaps (IDG) measure student groups within the district. Internal district versus internal state (ID vs. IS) achievement gaps show the district's achievement gap versus the average achievement gap of every other district in Connecticut (excluding HPS). If a given HPS achievement gap is closing faster than that of the rest of the state, the ID vs. IS gap is considered to be closing. Finally, external achievement gaps (EDG) quantify the difference between a district's disadvantaged student group proficiency rate and the advantaged student group average proficiency rate of all other districts in the state. External achievement gaps are considered to be closing if a district's disadvantaged group proficiency rate is increasing faster than the state averaged advantaged group. Table 2 shows which achievement gaps HPS is closing, and which achievement gaps are not closing, given the available data.

Table 2: All Achievement Gap Closures

Achievement Gap	School Level	Subject	IDG	ID vs. IS	EDG
African-American vs. White	Elementary	Math	√	√	X
Hispanic vs. White	Elementary	Math	√	X	X
Low-income vs. Non-low-income	Elementary	Math	-	-	X
African-American vs. White	Elementary	Reading	√	√	X
Hispanic vs. White	Elementary	Reading	√	X	X
Low-income vs. Non-low-income	Elementary	Reading	-	-	X
African-American vs. White	Elementary	Science	-	-	-
Hispanic vs. White	Elementary	Science	-	-	-
Low-income vs. Non-low-income	Elementary	Science	-	-	-
African-American vs. White	Middle School	Math	√	√	√
Hispanic vs. White	Middle School	Math	√	√	√
Low-income vs. Non-low-income	Middle School	Math	√	√	X
African-American vs. White	Middle School	Reading	√	√	√
Hispanic vs. White	Middle School	Reading	√	X	√
Low-income vs. Non-low-income	Middle School	Reading	√	X	√
African-American vs. White	Middle School	Science	-	-	-
Hispanic vs. White	Middle School	Science	-	-	-
Low-income vs. Non-low-income	Middle School	Science	-	-	-
African-American vs. White	High School	Math	†	†	√
Hispanic vs. White	High School	Math	†	†	√
Low-income vs. Non-low-income	High School	Math	†	†	√
African-American vs. White	High School	Reading	√	√	X
Hispanic vs. White	High School	Reading	√	√	X
Low-income vs. Non-low-income	High School	Reading	√	√	√
African-American vs. White	High School	Science	√	X	√
Hispanic vs. White	High School	Science	X	X	√
Low-income vs. Non-low-income	High School	Science	√	√	√
Gaps Closing out of Total Available:			14/16	10/16	12/21

† Data were suppressed due to unreliability or group represented less than 5 percent of test-takers at that grade level.
– Data were unavailable.

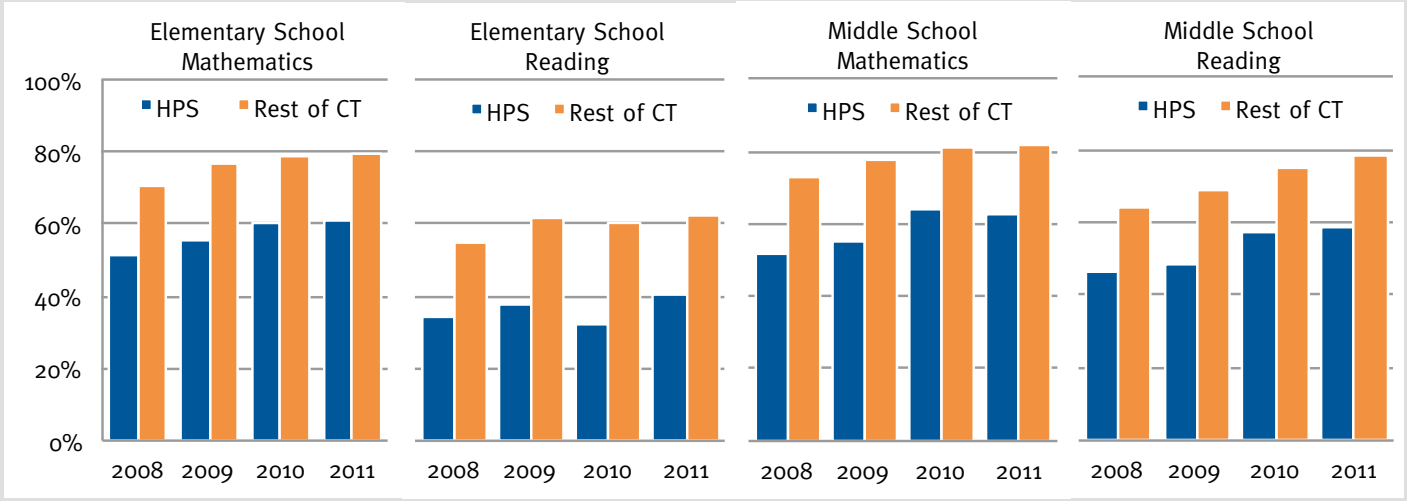
As shown in the table above, Hartford is excelling at closing internal district achievement gaps. The district is also closing well over half of achievement gaps when compared with the rest of the state, and against advantaged student groups in the rest of the state. This means that Hartford is closing the majority of its achievement gaps at a faster pace than the average of all other districts in Connecticut. And that most of Hartford's disadvantaged student groups are out pacing the "rest of state" average advantaged student groups' improvement in proficiency rates.

Areas for Improvement

Hartford Public Schools has low 2011 proficiency rates in mathematics and reading at every school level relative to other Connecticut school districts. In aggregate, the district's proficiency rates in mathematics and reading fall into the bottom 10 percent of all Connecticut school districts for all school levels in absolute terms. However, taking the percentage of low-income students at each school level into effect, Hartford's high school students perform above expected performance in both subjects. This means that, Hartford's high school students actually performed better on state standardized tests in mathematics and reading proficiency controlling for the high percentage of low-income students in the school district.

Disaggregating the district's student population by sub-group, low-income student proficiency rates are underperforming relative to other Connecticut school districts, shown in Figure 6 below.

Figure 6: Low-Income Student Proficiency Rates



Source: Connecticut Department of Education, CAPT Data Interaction

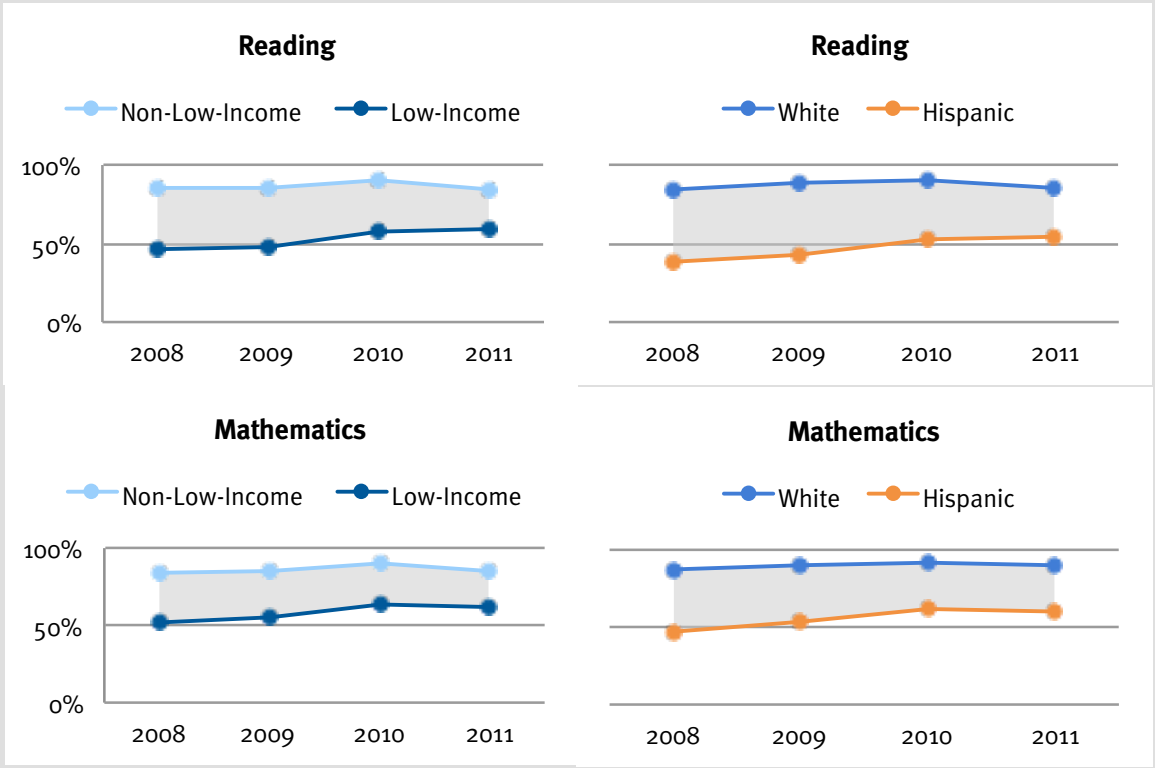
This is a problem because although proficiency rates among this sub-group of students have improved since 2008, they have not improved as quickly as most districts in the rest of the state. This is also the case for proficiency rates in mathematics and reading among Hispanic elementary school students.

Hartford Public Schools is among the bottom 10 percent of Connecticut school districts for 2011 achievement gaps in reading and math proficiency between low-income and non-low-income students. Hartford also falls into the bottom 10 percent of school districts for 2011 achievement gaps among the following categories and sub-groups of students:

- Mathematics proficiency rates between Hispanic and White elementary and middle school students;
- Reading proficiency rates between Hispanic and White middle school students, and
- Math and reading proficiency between low-income and non-low-income students.

Although Hartford has larger achievement gaps relative to other Connecticut school districts in these categories, the district performs well when measuring how quickly these achievement gaps are closing. Hartford is among the top 40 percent to 10 percent of all Connecticut school districts for fastest closing achievement gaps in each category (with the exception of low-income elementary school students).

Figure 7: Achievement Gap Closure among Middle School Students



Source: Connecticut Department of Education, CAPT Data Interaction

As shown in Figure 7, 2011 achievement gaps between each disadvantaged student group and advantaged student group range from a 20 to 30 percentage point gap. However, the difference in proficiency rates has closed each year an average of three to five percentage points. This shows that, although Hartford has relatively large differences in proficiency rates among certain student sub-groups, disadvantaged student groups proficiency rates have quickly been improving.

School Empowerment Benchmarks

Hartford Public Schools has achieved reaching 9 out of 10 school empowerment benchmarks. The only benchmark that the district has failed to meet is charging schools actual versus average salaries. If schools were charged actual rather than average teacher salaries there would be even greater equity in school funding. As previously mentioned, charging schools average salaries allots more funding to schools with more senior teachers. This gives principals an incentive to hire more senior teachers to increase the average salary rather than hiring teachers based on performance.

Category	Grade
School Empowerment Benchmarks	A
School budgets based on students not staffing	Yes
Charge schools actual versus average salaries	No
School choice and open enrollment policies	Yes
Principal autonomy over budgets	Yes
Principal autonomy over hiring	Yes
Principal training and school capacity building	Yes
Published transparent school-level budgets	Yes
Published transparent school-level outcomes	Yes
Explicit accountability goals	Yes
Collective bargaining relief, flat contracts, etc.	Yes

9. Lessons Learned in Hartford

1. Hartford demonstrates the value of a clear accountability matrix that evaluates each school and sets the level of autonomy for each school based on student performance. Low-performing schools face intensive intervention from central office teams and eventual closure if performance does not improve.
2. Hartford has employed an aggressive strategy of closing low-performing schools and redirecting resources to higher quality new schools.
3. Hartford has embraced a strategy to provide many different niche schools with secondary schools that offer content-specific curriculum such as engineering or nursing.
4. Hartford has made school choice one of two pillars of its strategic plan. Every family will have a choice of a high quality school.
5. Most significantly, the Hartford school board has taken personal accountability for the performance of Hartford schools and set very specific criteria for performance. It has defined the conditions under which it will reward high performers and close low performers.

Resources

- Christine Campbell and Betheny Gross, "Improving Student Opportunities and Outcomes in Hartford Public Schools," Center on Reinventing Public Education, June 2013. http://www.crpe.org/sites/default/files/Pub_EvidenceProject_Hartford_jul13.pdf.pdf.
- "Funding a Better Education: Conclusions from the First Three Years of Student-Based Budgeting in Hartford," Public Impact and Achieve Hartford, 2012. http://www.achievehartford.org/upload/files/4-16-12---Funding_a_Better_Education-Public_Impact.pdf.
- "Guide to Student-Based Budgeting 2008–2009," Hartford Public Schools, http://www.hartfordschools.org/documents/RevisedSBBGuide.pdf.
- Hartford Public Schools' Board of Education, Adopted Budget, FY 2012–13, Hartford Public Schools, May 31 2012. http://wwwtest.hartfordschools.org/files/12-13%20Board%20of%20Education%20Adopted%20Budget%20Web%20Revision%20050112.pdf.
- Hartford Public Schools, "Our Theory of Action: Managed Performance Empowerment," July 2013. http://www.hartfordschools.org/files/TOA_Outline_for_Revision_072413v2.pdf.
- Hartford Public Schools, *Three Year Strategic Operating Plan*, http://www.hartfordschools.org/learn-about-hps/documents/HartfordPlan021709FINAL.pdf.

Contact Information

Paula Altieri
Chief Financial Officer
960 Main Street, 8th Floor
Hartford, CT 06103
Phone: 860 695-8644

Endnotes

[1] Christine Campbell and Dr. Betheny Gross, "Improving Student Opportunities and Outcomes in Hartford Public Schools: State of the School Preliminary Report," Hartford Public Schools, April 2013. http://www.hartfordschools.org/files/CRPE_Final_Report_FINAL_PDF_VIEW.pdf.

[2] Hartford Public Schools, *Three Year Strategic Operating Plan*, http://www.hartfordschools.org/learn-about-hps/documents/HartfordPlan021709FINAL.pdf.

[3] Hartford Public Schools, "Our Theory of Action: Managed Performance Empowerment," July 2013. http://www.hartfordschools.org/files/TOA_Outline_for_Revision_072413v2.pdf.

[4] " Funding a Better Education: Conclusions from the First Three Years of Student-Based Budgeting in Hartford," Public Impact and Achieve Hartford, 2012. http://www.achievehartford.org/upload/files/4-16-12---Funding_a_Better_Education-Public_Impact.pdf**.**

[5] For detailed special education weights see: *Guide to Student-Based Budgeting 2008–2009*, Hartford Public Schools, http://www.hartfordschools.org/documents/RevisedSBBGuide.pdf.

[6] The methodology used for determining principal autonomy is explained in detail in section 2 of the methodology chapter of the *Weighted Student Formula Yearbook*.

[7] Christine Campbell and Betheny Gross, "Improving Student Opportunities and Outcomes in Hartford Public Schools," Center on Reinventing Public Education, June 2013. http://www.crpe.org/sites/default/files/Pub_EvidenceProject_Hartford_jul13.pdf.pdf.

[8] Ibid.

[9] "New Era Begins for Hartford Public Schools," Hartford Public Schools, Press Release, August 25, 2008.

[10] "Commitment to Hartford School Reform Deepens with Breakthrough Ratification of Two Collective Bargaining Agreements," Hartford Public Schools, Press Release, February 19, 2008.

[11] http://solutions1.emetric.net/CMTPublic/Index.aspx.

[12] U.S. Department of Education, EDFacts, *Adjusted Cohort Graduation Rates at the School Level: School Year 201–-11*, https://explore.data.gov/Education/School-graduation-rates/5vtz-kvrk, April 17, 2013.

[13] Tied with Newark.

[14] Dr. Christina Kishimoto Superintendent of Schools, *2012 Connecticut Mastery Test and 2012 Connecticut Academic Performance Preliminary Results Press Packet*, Hartford Public School District, July 19, 2012. http://www.hartfordschools.org/files/2012_CMT-CAPT_Press_Release_7-19-12_Final.pdf.

[15] Ibid.

[16] Tied with Boston for expected proficiency rates in high school mathematics.

[17] Kishimoto, *2012 Connecticut Mastery Test and 2012 Connecticut Academic Performance Preliminary Results.*

[18] Ibid.