

Yankee Institute for Public Policy

The Value Gap

How Effective Is Your Local School District?

Executive Summary

Connecticut's system of government schools devotes considerable resources to measuring both outputs and inputs. The state's Department of Education publishes an annual profile of every school district that includes students' achievement levels on a number of assessments, including the Connecticut Mastery Test (CMT). The department's profiles also calculate the cost a school district incurs, on a per-pupil basis, in carrying out its constitutional obligation to provide educational services for the students within its jurisdiction. (This figure excludes the cost of special education and debt service.)

Where the state's education-data efforts fall short, however, is in measuring the relationship between costs and student achievement. This study is perhaps the first attempt ever made to gauge what taxpayers—the people who support the state's government schools—receive for their “investment.”

To probe the relationship between spending and results, the Yankee Institute examined 2003 CMT scores for grades four and eight and per-pupil costs for the 2002-2003 school year. First, the percentage of school districts' students who met the state's goal in the test's three portions (mathematics, reading, and writing) was averaged.

The districts' per-pupil costs were then divided by these averages to determine how much it cost each district to obtain a percentage point of average CMT goal attainment.

The results of these calculations are striking:

** Efficient school districts are not necessarily wealthy school districts.*

** Inefficient school districts are not necessarily poor school districts.*

** The state's poorest school districts not only fail to serve their students, but also generate an abysmally low return for taxpayers' dollars.*

** Many affluent towns spend much more than middle-class towns for the same educational outcomes.*

** Many middle-class school districts achieve remarkably high student performance with relatively low spending.*

** Efficient school districts should be closely examined by education reformers and taxpayers alike, in order to determine the best ways to spend tax revenue more wisely.*

No one benefits from [an education] system built on well-intentioned fictions.

- Robert J. Samuelson¹

You would risk a hernia if you tried to carry all the studies which show that more money has virtually no effect on the quality of American education.

- Thomas Sowell²

Introduction

Connecticut's system of government education devotes considerable resources to measuring both outputs and inputs. On the output side, school districts use both state and federal tests to assess students at the elementary and secondary levels. As for inputs, every year the Connecticut State Department of Education (CSDE) publishes profiles that document each school district's per-pupil expenditures.³ (It should be noted that several significant expenses, including debt service and special-education costs, are not counted in districts' per-pupil figures.)

However, the *relationship* between outputs and inputs is rarely, if ever, examined by the CSDE and the school districts themselves. Left out of discussions of Connecticut's government schools is a simple question: "What *value* do taxpayers get for their education dollar?"

This study is perhaps the first attempt yet made to examine the relationship between student achievement and taxpayer expenditure at the elementary-school level in Connecticut. The results of this analysis are striking and confirm what many researchers concluded long ago—that a direct connection between education spending and student proficiency is doubtful, and so far, completely unproven.

Comparisons among Connecticut school districts yield the same conclusions that have been reached by analyses of government-school systems at the state level. There are high-cost/low-performing states, high-cost/high-performing states, low-cost/low-performing states, and low-cost/high-performing states. Connecticut, it appears, is a microcosm of government education throughout the nation.

In the Nutmeg State, as in the United States in general, the taxpayers who support government schools face a significant "value gap." Some are taxed

at a relatively low rate for the schools in their jurisdictions and are blessed with high-achieving students. Others are taxed excessively for schools that do not produce even remotely competent students. The persistence of this gap despite decades of “equity” schemes and other “reforms” lends credence to the theory that factors outside the classroom influence student achievement far more than the amount and nature of resources dedicated to government schools.

The CMT: An Overview

The Connecticut Mastery Test (CMT), adopted in 1985, assesses students in the fourth, sixth, and eighth grades in three subjects: mathematics, reading, and writing. In 2000, the test began a third “generation,” after undergoing its first revision in 1993.

For each subject, a student’s CMT score is ranked in one of five performance categories: Advanced, Goal, Proficient, Basic, and Below Basic. According to the CSDE, the “top two levels (Advanced and Goal) define the Goal Range, which is the same as what has historically been referred to as ‘at or above goal.’”⁴ The CSDE releases data on what percentage of each school district’s students fall within goal range for each subject.

The CMT is given to students early in the school year. This study examines the results of the CMT students took in the fall of 2003. Per-pupil costs used are for the 2002 - 2003 school year because it was the last full school year students experienced before taking the 2003 CMT. (Per-pupil estimates are not yet available for the full school year that preceded the 2004 CMT.)

Methodology

Every Connecticut school district at the town level was studied in this analysis, as were the regional school districts that educate students in fourth and eighth grades. (Some regional school districts exist only to provide high-school education.) The state’s magnet and charter schools were not included because of a limited track record when compared to town-based and regional school districts. (The overwhelming majority of Connecticut students enrolled in government education attend schools in traditional districts.)

To obtain the cost, on a per-pupil basis, of a percentage point of average CMT goal attainment, school districts’ scores in the Advanced and Goal ranges for all three subjects were added, and then divided by three. Then the per-pupil cost of elementary education in each school district was divided by its CMT goal-attainment average. The results, which ranged from under \$100.00 to over \$400.00, were then ranked.

For example, 71 percent of the Guilford School District’s eighth graders achieved scores in mathematics that the CSDE considers “at or above goal.” For reading, the percentage was 87; for writing, 77. The average of these scores is 78.33 percent. For the purpose of this study, **this percentage is referred to as the district’s goal-attainment average (GAA)**. Guilford’s eighth-grade students’ GAA of 78.33 percent was 38th among the 147 districts examined at the eighth-grade level. (Its GAA was 10.34 points above the state average.)

According to the CSDE’s calculations, during the 2002-2003 school year, the Guilford School District spent \$7,217 for every student enrolled in its elementary schools. Dividing this sum by the district’s GAA of 78.33 yields the amount of \$92.14. This value, **which will be referred to as the district’s cost-benefit value (CBV)**, is an indication of the “price” taxpayers of Guilford (and taxpayers throughout Connecticut, who contribute revenue to the district through the state’s “Education Equalization Grants”) paid to achieve a single percentage point of average goal attainment for each student. Guilford’s eighth-grade CBV of \$92.14 ranked 21st among the districts examined at the eighth-grade level. It was significantly less than the average of all districts studied. The Guilford School District, according to the data, performs rather efficiently.

The calculations made in this analysis can be expressed as:

$$\text{CMT Math Score} + \text{CMT Reading Score} + \text{CMT Writing Score} / 3 = \text{GAA}$$

$$\text{District’s Per-Pupil Expenditure} / \text{GAA} = \text{CBV}$$

Results: Fourth Grade

The average fourth-grade CBV for the school districts examined in this analysis was \$131.95. The 10 districts with the lowest CBVs—i.e., the most cost-effective districts—were:

1. New Fairfield	\$ 76.01
2. Glastonbury	81.73
3. Simsbury	83.04
4. Madison	84.03
5. Pomfret	86.31
6. Hebron	86.92
7. Granby	88.05
8. Woodstock	88.24
9. Region 14	88.69
10. Wolcott	89.45

Several things stand out about this list. First, contrary to what many might assume, districts serving the state's most affluent towns do *not* dominate the top 10. According to median household-income data from the U.S. Census Bureau, of Connecticut's 169 municipalities, the rank for Madison, the wealthiest town in the top 10, is 14. The rank for Woodstock, the poorest municipality in the top 10, is 110. (The average household incomes of the two towns that comprise Region 14 is roughly equal to a rank of 46.)⁵

Second, the districts' admirable efficiency ratings are not the result of low spending and low achievement. (Few taxpayers would be delighted to learn that their school district performed well on an efficiency scale due to low student performance.) Rather, they result from *below-average spending* and *above-average achievement*.

Every town in the top 10 had a goal-attainment average above the average GAA score for the districts examined in this study. (Three were even in the GAA top 10: Glastonbury, Simsbury, and Granby.) Several districts scored as much as 20 percentage points above average. The average rank for the entire 10 is 25.2, a score that would fall within the top 16 percent of the 158 Connecticut school districts examined at the fourth-grade level.

As for per-pupil spending, the highest district was Granby, at \$7,279. The lowest was New Fairfield, at \$5,904. Every district in the top 10 spent well below \$8,060, the average of districts examined. (New Fairfield's per-pupil spending was over 25 percent below average.)

It should come as no surprise that the school districts that generate the least value for the taxpayer dollar also score quite low on the CMT. Hartford, the district with the lowest cost-benefit value (\$402.47), also had the lowest goal-attainment average (26.67 percent). Its per-pupil cost was \$10,734, a staggering 29.2 percent more than the state average.

The CBV data for Connecticut's urban districts provide more evidence that the state's attempt to overcome chronically low scores in cities like Hartford through ever-higher spending has benefited neither students nor taxpayers.

Results: Eighth Grade

The average eighth-grade CBV for the school districts examined in this study was \$128.34. The 10 districts with the lowest CBVs were:

- | | |
|------------------|----------|
| 1. New Fairfield | \$ 71.42 |
| 2. Madison | 75.41 |
| 3. Suffield | 76.48 |

4. Sherman	78.42
5. Pomfret	79.25
6. Region 5	80.11
7. Glastonbury	80.79
8. Woodstock	82.85
9. Westbrook	84.02
10. Simsbury	84.36

As was the case for fourth-grade scores, the top 10 list is not overwhelmingly comprised of affluent towns. Madison (14) remained on the list, but so did Pomfret (98) and Woodstock (110).

For eighth grade, once again districts' CBVs were the result of *below-average spending* and *above-average achievement*.

Every town on the list had a GAA score above the average of the districts examined in this study. (Two were in the GAA top 10: Glastonbury and Madison.) Several districts were again as much as 20 percentage points above average. The average rank for the entire 10 is 18.9, a score that would fall within the top 12.9 percent of the 147 Connecticut school districts examined at the eighth-grade level.

As for per-pupil spending, the highest district was Simsbury, at \$7,114. The lowest was again New Fairfield, at \$5,904. Every district in the top 10 spent less than \$8,128, the average for the districts examined.

Once again, the school districts that produce the least value for the taxpayer dollar also score dismally low on the CMT. Here, New Haven, rather than Hartford, takes the bottom slot, with a CBV of \$388.75 and a second-from-the-bottom GAA percentage of 28.00. New Haven's school district does a scandalous disservice to students and taxpayers alike.

What About Districts in the Middle?

The aforementioned middle-class school districts that were found to be among the most cost-effective in Connecticut suggest that while the linkage between spending and student achievement is weak, the connection between town wealth and taxpayer value is also flimsy.

But, surprisingly, more proof of this finding is provided by the cost-benefit values of Connecticut's most affluent towns, which are among the wealthiest communities in the United States. It comes as little surprise that CBVs for school districts in Connecticut's impoverished urban municipalities are astronomically high. But a significant number of very wealthy school

districts are expensive as well—not as expensive as Hartford or New Haven, of course, but costly enough.

One of the most striking findings that emerges from the computation of district CBVs is the extent to which many of Connecticut’s elite communities appear willing to spend lavishly for elementary-student achievement that is produced elsewhere at a much lower cost.

For example, the goal-attainment average for fourth-graders in Redding (the eighth wealthiest town in Connecticut) was 75.67 percent. Taxpayers paid \$128.95 per pupil for every percentage point of this goal attainment.

Yet students in Pomfret (a wealth ranking of 98, with almost half of Redding’s median household income) achieved a nearly identical GAA—74.67 percent—while costing taxpayers far less of a “per unit cost.” A percentage point of goal attainment in Pomfret’s school district cost a mere \$86.31, or 33.1 percent less than it did in Redding.

At the eighth-grade level, Wilton (the fourth wealthiest town in Connecticut) and Suffield are a similar case. Suffield’s median household income is nearly two thirds less than Wilton’s. But the Suffield school district spent a mere \$76.48 for each percentage point of its GAA, while Wilton’s district, with a very similar GAA rank, paid \$102.40.

Not every affluent school district is inefficient, of course. The Madison School District appears on both top 10 lists, and its students are from the 14th wealthiest municipality in the state.

Lower down on the wealth scale, the story is much the same: both efficiency and inefficiency. Residents of middle-class towns with poor CBVs should find it very disturbing that towns close in wealth to their own—and sometimes, even substantially poorer towns—spend less for elementary-student achievement.

For example, the towns of East Windsor and Westbrook have mid-range median household incomes. Yet Westbrook’s eighth-grade CBV is an impressive \$84.02, while East Windsor’s is \$128.26—just a few pennies better than the state average. Adding insult to injury, Westbrook’s GAA is 80.67 percent, while East Windsor’s is 58.00 percent, 10 points below the state average.

In other words, despite their comparable incomes, taxpayers in Westbrook pay significantly less, and get substantially more, for their elementary-education dollar than their counterparts in East Windsor.

Other examples of this kind of disparity abound. Ellington and Windsor have similar household incomes, yet the former's eighth-grade CBV was \$94.77 while the latter's was \$161.06. A less dramatic example is a comparison of Hartland and North Branford. The fourth-grade CBV for Hartland was \$94.62, while North Branford, a town of comparable income, produced a CBV of \$112.61.

Appendices A and B contain fourth- and eighth-grade GAA and CBV data for all school districts examined in this study. Additional examples similar to the ones described above are easy to find.

School districts—and the students they instruct—are not numbers or values, of course. Admittedly, the CBV is an imperfect instrument. It does not offer the final word on the condition of elementary education in Connecticut. But it can improve our understanding of the most effective ways to improve student proficiency. And given that Connecticut's CBVs indicate no positive relationship between high spending and high student achievement in the state, they echo research conducted in recent decades at the national level.

A Broader Perspective

The results of this examination of cost-effectiveness in Connecticut's elementary schools will come as little surprise to longtime observers of American education. Although it is not common knowledge, as far back as the 1960s, intellectually honest researchers began to doubt the existence of a positive relationship between educational resources and outcomes.

The Civil Rights Act of 1964, a key component of President Lyndon B. Johnson's "Great Society," mandated a study of the revenue devoted to black and white government-school students. At the time, conventional wisdom assumed that sociologist James Coleman, who undertook the study, would provide bulletproof, empirical data showing that the educational achievement gap between blacks and whites at the time was the result of greater school spending in white districts. But Coleman's report did nothing of the sort. Instead, it concluded:

Per-pupil expenditures, books in the library, and a host of other facilities and curricular measures show virtually no relation to achievement if the social environment of the school—the educational backgrounds of other students and teachers—is held constant. ... Altogether, the sources of inequality of educational opportunity appear to lie first in the home itself and the cultural influences immediately surrounding the home; then they lie in the school's ineffectiveness to free achievement from the impact of the home, and in the school's cultural homogeneity which perpetuates the social influences of the home and its environs.⁶

But this conclusion did not accord with the interests of elected officials and members of the education establishment, who cast aside the findings of Coleman's project. The public coffers were opened as never before, and revenue gushed into the nation's government schools. According to the U.S. Department of Education, in inflation-adjusted dollars, per-pupil spending more than tripled between 1960 and 1996,⁷ and between the 1997-1998 and 2001-2002 school years, expenditures rose another 20.6 percent.⁸

Over a quarter century after Coleman's landmark study, a similar analysis reached the same conclusions. In 1993, researchers at the Educational Testing Service's Policy Information Center studied the effect of non-classroom factors on student achievement. They found that 91 percent of the difference among the performance of the states' government schools could be explained by five factors, including the amount of time students spent watching television, number of pages students read for homework, and the presence of two parents in students' homes.⁹

Sadly, just as politicians and the education establishment refused to heed these findings in the 1960s, for over a decade they have ignored the Educational Testing Service research as well. The result is a nationwide government-school system at the elementary and secondary levels that consumed \$392 billion (a very conservative estimate) during the 2000-2001 school year.¹⁰

The money continues to flow, but the data continue to show no link between additional revenue and higher scores. In 2001, the Heritage Foundation offered a comparison of states that spend different amounts of money, and receive vastly different results, that is eerily reminiscent of our comparison of school districts in Connecticut:

High Expenditures/Low Achievement

District of Columbia: 3rd Highest in Expenditures, Last in Achievement
Delaware: 8th Highest in Expenditures, 26th out of 40 in Achievement

High Expenditures/High Achievement

Connecticut: 4th Highest in Expenditures, 1st in Achievement
Massachusetts: 7th Highest in Expenditures, 4th Highest in Achievement

Low Expenditures/Low Achievement

Mississippi: 50th out of 51 in Expenditures, 36th out of 40 in Achievement
New Mexico: 49th out of 51 in Expenditures, 35th out of 40 in Achievement

Low Expenditures/High Achievement

Montana: 25th out of 51 in Expenditures, 2nd Highest in Achievement
Colorado: 31st out of 51 in Expenditures, 8th Highest in Achievement¹¹

CBV: A Tool for Connecticut's Taxpayers and Education Reformers

What explains Connecticut's value gap? Why do some school districts pay so much more for elementary-school achievement? Why do two towns with similar household income levels spend different amounts for fourth and eighth graders' proficiency in math, reading, and writing? Why do two towns with similar—perhaps even identical—CMT scores pay significantly different sums for essentially the same achievement?

These are questions that need to be asked by Connecticut's elected officials, educators, and taxpayers. With most municipalities devoting well over half their budgets to government-school expenses and the CSDE's complex (some would say incomprehensible) "equalization" formula costing Nutmeg State taxpayers over \$1 billion a year, an examination of educational efficiency is long overdue. For far too long, attention has been paid only to the outputs and inputs of Connecticut's government schools, as if there were nothing to learn by examining the relationship between the two.

Issues to consider include:

Are teacher salaries and benefits in some districts excessive?

Connecticut's teachers are among the highest paid educators in the nation.¹² But since compensation packages are negotiated separately for each school district, it's likely that some school boards are tougher negotiators—and thus, better stewards of the public purse—than others. Since employee salary and benefit expenditures typically account for well over half of districts' budgets, an analysis of how and why some collective bargaining agreements are more taxpayer-friendly is warranted.

Are the teachers in Connecticut's inefficient school districts less intellectually capable? Studies have consistently documented what economist Thomas Sowell calls "the intellectual incompetence of public school teachers."¹³ Author Martin Gross writes that analyses of high-school grades, Scholastic Aptitude Test scores, and Graduate Record Exam scores reveal that the students who go on to become teachers are "typically very weak academically."¹⁴ Furthermore, many teachers combine poor academic backgrounds with a lack of knowledge of the very subjects they teach. According to a 2002 analysis by the Education Trust, this problem is "widespread" and "chronic." Over one quarter of Connecticut's middle- and high-school educators teach subjects in which they lack even a college minor. (In high-poverty districts, the percentage is even higher.)¹⁵ It is time for a thorough investigation of the capabilities of Connecticut's government-school teachers.

Are some schools' class sizes needlessly small? A large body of research exists that questions the educational value of reducing class sizes. For example, a 2000 study by education economist Caroline M. Hoxby, which used data from Connecticut in addition to other states, concluded that "class size does not have a statistically significant effect on student achievement."¹⁶ Connecticut's education establishment has long been an advocate of reduced class sizes, and while there is no statewide plan mandating student-to-teacher ratios, many districts continue to press forward with this "reform." It is time for an objective reexamination of class-size-reduction efforts and the role they may play in efficiency.

What role does the cost of administrative staff play? In the last three decades, the ratio of non-classroom personnel to teachers in U.S. government schools has shifted from 1-to-2.5 to 1-to-1.¹⁷ Whether substantial growth in administrative staff is an explanation for inefficiency in Connecticut's government schools bears investigation.

Do inefficient districts spend too much on technology? Computers have long been touted as powerful tools to improve student performance. In recent decades, the CSDE has augmented districts' own technology spending by tens of millions of dollars. But in the opinion of many researchers, this policy yields paltry results.¹⁸ And the chilling conclusion of computer visionary Steve Jobs casts further doubt upon some districts' ongoing diversion of tax revenue to computer-assisted learning:

I used to think that technology could help education. I've probably spearheaded giving away more computer equipment to schools than anybody else on the planet. But I've had to come to the inevitable conclusion that the problem is not one that technology can hope to solve. What's wrong with education cannot be fixed with technology. No amount of technology will make a dent. It's a political problem. The problems are sociopolitical. The problems are unions. You plot the growth of the [National Education Association] and the dropping of SAT scores, and they're inversely proportional. The problems are unions in the schools. The problem is bureaucracy. I'm one of these people who believes the best thing we could ever do is go to the full voucher system.¹⁹

Do the contributions of local foundations aid efficiency? In Connecticut, "more than 50 local education foundations have been established to support and enhance public school programs."²⁰ These organizations raise money through private donations, and thus to some degree offset the need for higher spending by some school districts. Could inefficient districts improve their cost-benefit relationship through the creation of such organizations?

Are some school districts more efficient due to the presence of vocal taxpayer groups? There are 49 taxpayer groups currently active at the municipal level in Connecticut.²¹ It is possible—perhaps likely—that by educating voters about the results of their educational expenses, these organizations contribute to more enlightened spending habits by school districts.

Would the presence of meaningful educational-choice alternatives improve government-school efficiency? Research has shown that government schools boost their performance when faced with competition—and even the threat of competition—from publicly funded voucher programs and charter

schools.²² Since Connecticut's charter-school law is needlessly restrictive and publicly funded scholarship programs in the state are nonexistent, competition currently places scant pressure on inefficient districts.

What role could opportunity scholarships play in boosting achievement? Research has also documented that when scholarship programs allow students to attend private learning institutions, academic achievement improves.²³ The other advantage of tuition grants is financial—private schools simply cost less. In Connecticut, the Yankee Institute for Public Policy has designed a downloadable spreadsheet that shows how much school districts could save, particularly through the avoidance of school construction, by awarding grants to send some students to private schools.²⁴ Yankee's proposal is currently under consideration in several Connecticut towns and has been studied by educators and researchers throughout the nation.

And, finally, what is it about the home environments of students in taxpayer-friendly school districts that contribute to low CBVs? Do the parents of these students strictly control television-watching? (In 2005, computer activity would need to be added to this question.) Are there more two-parent families in these districts? Are these parents more vigilant about enforcing homework assignments? Are students in these districts, as the Educational Testing Service's research suggests, absent from class less than their peers in inefficient districts?

Can tax revenue currently devoted to schools be more effectively used by social-service programs that target absenteeism, reading, and the importance of two-parent families? And, perhaps most importantly, do state and local government agencies have the authority and/or ability to make people better parents?

These questions need to be asked by decisionmakers in the state's system of government schools and by the politicians who vote on education budgets, rather than the standard query: "How much more will they give us to spend?"

The CBV data show that some school districts' students perform at impressive levels while incurring relatively low costs. It is these students, as well as their home environments and the nature of the school districts that teach them, that bear further study.

Conclusion

The cost-benefit values documented in this analysis serve to lend more credence to a conclusion many researchers made long ago: Once a certain level of school funding has been achieved, additional spending results in little, if any, improved student performance. Thus, increasing school spending beyond

a certain point is unproductive. Indeed, it is counterproductive, because the additional revenue taken from taxpayers in the school district and throughout the state damages the economic vibrancy needed to fund children's education and provide employment opportunities for them when they leave school.

With students spending 90 percent of their lives outside the classroom, it is time for Connecticut to seriously reexamine its longstanding belief that merely raising school districts' budgets, by any means necessary, will help children learn better. To the extent school districts can be run in a more cost-effective manner, the districts with low CBVs should be studied in depth to determine the causes of their efficiency. But the role the family—what the Educational Testing Service calls “America's smallest school”—plays in a child's intellectual development must also be examined.

Few would argue with the noble goal of providing every Connecticut child an adequate (indeed, a superior) education. But the murky relationship between achievement levels and taxpayer support documented here suggests that the method so often promulgated to improve education in Connecticut—devoting ever-greater amounts of tax revenue to the state's government schools—is specious.

Surely the point of diminishing returns was reached long ago for Connecticut's poorest school districts, and it may well have been reached in most middle-class and affluent communities as well. With a billion-dollar deficit facing the state's treasury and a property-tax revolt thriving in dozens of Connecticut municipalities, it's time to ask hard questions about the cost of government education in the Nutmeg State. Examining cost effectiveness in Connecticut's school districts is a powerful way to shift the debate in the right direction.

APPENDIX A
FOURTH GRADE: GOAL-ATTAINMENT AVERAGE AND COST-BENEFIT VALUE

District	GAA	Rank	CBV	Rank
Andover	59.33	101	118.00	70
Ansonia	48.67	136 (tied)	132.83	96
Ashford	51.67	128 (tied)	134.70	100
Avon	84.00	7	98.51	33
Barkhamsted	72.67	52	107.25	52
Berlin	73.67	45 (tied)	103.72	45
Bethany	56.33	112 (tied)	123.26	79
Bethel	73.67	45 (tied)	103.09	44
Bloomfield	51.33	130	188.19	142
Bolton	76.00	34 (tied)	104.66	47
Bozrah	53.33	123 (tied)	148.55	118
Branford	71.00	57 (tied)	116.70	66
Bridgeport	28.67	156 (tied)	310.08	156
Bristol	56.33	112 (tied)	131.95	94
Brookfield	75.00	38 (tied)	95.35	25
Brooklyn	61.67	93 (tied)	121.27	78
Canaan	68.00	68 (tied)	155.43	127
Canterbury	61.00	96 (tied)	146.56	115
Canton	81.67	11 (tied)	91.01	14
Chaplin	47.67	139 (tied)	173.36	136
Cheshire	75.33	37	96.48	29
Chester	69.33	65	111.42	59
Clinton	49.67	135	170.61	134
Colchester	63.33	82 (tied)	99.48	37
Colebrook	50.00	134	174.06	137
Columbia	56.67	110 (tied)	130.17	90
Cornwall	73.00	49 (tied)	160.90	131
Coventry	66.67	73 (tied)	106.09	51
Cromwell	71.00	57 (tied)	110.31	57
Danbury	47.33	142	178.41	139
Darien	87.00	3	108.25	54
Deep River	62.33	88 (tied)	129.74	88
Derby	44.67	145 (tied)	136.74	105
Eastford	63.33	82 (tied)	155.20	126
East Granby	69.00	66	111.83	60
East Haddam	68.33	67	125.64	83
East Hampton	61.00	96	108.44	55
East Hartford	40.33	150	199.28	147
East Haven	51.67	128 (tied)	157.38	130
East Lyme	73.00	49 (tied)	104.88	49
Easton	76.33	31 (tied)	113.36	64
East Windsor	53.33	123 (tied)	139.49	111
Ellington	78.00	23 (tied)	91.13	15
Enfield	55.67	117	138.46	110
Essex	67.33	71 (tied)	116.77	67
Fairfield	78.67	18 (tied)	116.44	65
Farmington	81.67	11 (tied)	95.53	26
Franklin	75.00	38 (tied)	118.39	71
Glastonbury	86.00	4	81.73	2
Granby	82.67	10	88.05	7
Greenwich	78.33	20 (tied)	137.83	108
Griswold	47.67	139 (tied)	152.21	121
Groton	56.67	110 (tied)	153.19	122
Guilford	79.00	17	91.35	17
Hamden	42.00	148	210.17	148
Hampton	61.00	96 (tied)	136.52	104
District	GAA	Rank	CBV	Rank
Hartford	26.67	158	402.47	158
Hartland	85.00	6	94.62	23

Hebron	73.33	48	86.92	6
Kent	70.33	62 (tied)	135.09	102
Killingly	59.00	102	129.76	89
Lebanon	65.67	76 (tied)	107.84	53
Ledyard	60.67	99	117.04	69
Lisbon	71.67	55 (tied)	92.34	20
Litchfield	76.33	31 (tied)	98.61	34
Madison	78.67	18 (tied)	84.03	4
Manchester	54.67	120	148.97	119
Mansfield	78.33	20 (tied)	120.57	76
Marlborough	74.67	40 (tied)	100.96	38
Meriden	51.00	131 (tied)	154.67	125
Middletown	50.33	133	174.47	138
Milford	65.33	78	127.02	85
Monroe	78.33	20 (tied)	93.64	22
Montville	58.33	105 (tied)	138.11	109
Naugatuck	52.33	127	133.02	97
New Britain	33.33	154	245.03	152
New Canaan	83.00	9	133.17	98
New Fairfield	77.67	26 (tied)	76.01	1
New Hartford	77.00	29	90.30	11
New Haven	34.67	153	313.96	157
Newington	68.00	68 (tied)	120.04	75
New London	30.33	155	305.70	155
New Milford	64.00	80 (tied)	110.63	58
Newtown	81.00	15	90.53	13
Norfolk	46.33	143	242.28	151
North Branford	60.33	100	112.61	63
North Canaan	47.67	139 (tied)	198.78	144
North Haven	74.33	42 (tied)	101.16	39
North Stonington	57.00	109	166.53	132
Norwalk	53.33	123 (tied)	180.14	140
Norwich	45.33	144	170.79	135
Old Saybrook	78.00	23 (tied)	96.09	28
Orange	72.33	53	102.43	42
Oxford	58.67	103 (tied)	130.58	92
Plainfield	41.33	149	198.86	145
Plainville	58.67	103 (tied)	146.80	116
Plymouth	44.67	145 (tied)	154.51	124
Pomfret	74.67	40 (tied)	86.31	5
Portland	64.00	80 (tied)	103.84	46
Preston	43.00	147	210.98	149
Putnam	48.67	136 (tied)	198.13	143
Redding	75.67	36	128.95	87
Ridgefield	81.33	14	92.30	19
Rocky Hill	62.33	88 (tied)	135.81	103
Salem	77.67	26 (tied)	98.75	35
Salisbury	76.00	34 (tied)	147.49	117
Scotland	28.67	156 (tied)	266.20	153
Sharon	56.00	115 (tied)	198.98	146
Seymour	70.67	59 (tied)	91.49	18
Shelton	73.67	45 (tied)	98.09	32
Sherman	74.33	42 (tied)	92.84	21
Simsbury	85.67	5	83.04	3
Somers	73.00	49 (tied)	91.15	16
Southington	67.33	71 (tied)	112.07	61
South Windsor	77.33	28	99.30	36
Sprague	61.67	93 (tied)	124.21	80
District	GAA	Rank	CBV	Rank
Stafford	56.33	110 (tied)	136.84	106
Stamford	55.00	119	184.00	141
Sterling	48.00	138	132.60	95
Stonington	62.33	88 (tied)	119.28	72
Stratford	54.33	121	137.38	107
Suffield	63.33	82 (tied)	105.87	50

Thomaston	53.67	122	128.25	86
Thompson	62.00	91 (tied)	109.69	56
Tolland	63.00	85 (tied)	119.71	73
Torrington	56.00	115 (tied)	131.77	93
Trumbull	74.00	44	103.01	43
Union	94.33	1	90.51	12
Vernon	58.33	105 (tied)	150.95	120
Voluntown	62.00	91 (tied)	125.40	82
Wallingford	66.33	75	101.97	40
Waterbury	36.00	152	211.86	150
Waterford	70.33	62 (tied)	126.60	84
Watertown	65.00	79	102.41	41
Westbrook	58.00	107	116.86	68
West Hartford	70.67	59 (tied)	112.42	62
West Haven	51.00	131 (tied)	144.90	114
Weston	81.67	11 (tied)	120.64	77
Westport	88.33	2	133.75	99
Wethersfield	72.00	54	95.81	27
Wilmington	55.33	118	157.31	129
Wilton	83.33	8	104.86	48
Winchester	63.00	85 (tied)	124.57	81
Windham	36.33	151	267.63	154
Windsor	57.67	108	155.47	128
Windsor Locks	53.00	126	153.79	123
Wolcott	76.67	30	89.45	10
Woodbridge	70.67	59 (tied)	119.82	74
Woodstock	71.67	55 (tied)	88.24	8
Region 6	63.00	85 (tied)	142.73	112
Region 10	76.33	31 (tied)	96.59	30
Region 12	66.67	73 (tied)	169.48	133
Region 13	68.00	68 (tied)	130.46	91
Region 14	80.00	16	88.69	9
Region 15	78.00	23 (tied)	95.14	24
Region 16	70.33	62 (tied)	97.17	31
Region 17	61.33	95	134.88	101
Region 18	65.67	76 (tied)	143.75	113
AVERAGE	63.94		131.95	

APPENDIX B
EIGHTH GRADE: GOAL-ATTAINMENT AVERAGE AND COST-BENEFIT VALUE

District	GAA	Rank	CBV	Rank
Ansonia	53.67	124	120.46	88
Ashford	64.00	102	108.75	61
Avon	88.33	3 (tied)	93.68	24
Berlin	72.33	65 (tied)	105.67	54
Bethel	73.33	62	103.57	50
Bloomfield	30.33	144	318.50	145
Bolton	76.33	47 (tied)	104.21	51
Bozrah	74.67	57	106.09	55
Branford	78.00	39 (tied)	106.23	56
Bridgeport	28.33	145	313.80	144
Bristol	53.33	120	134.34	102
Brookfield	72.67	65 (tied)	98.40	39
Brooklyn	69.00	80 (tied)	108.39	59
Canaan	86.00	10 (tied)	122.90	93
Canterbury	65.33	96	136.84	108
Canton	65.00	100 (tied)	114.35	78
Cheshire	81.67	22 (tied)	88.99	15
Clinton	73.67	61	115.03	79
Colchester	69.00	80 (tied)	91.30	19
Columbia	67.67	87	109.01	64
Cornwall	58.67	110 (tied)	200.20	136
Coventry	63.67	103	111.09	71
Cromwell	67.00	88	116.90	81
Danbury	46.67	135 (tied)	180.93	133
Darien	83.33	19	113.02	75
Derby	51.00	130	119.76	86
Eastford	82.00	21	119.87	87
East Granby	75.00	54 (tied)	102.88	49
East Haddam	60.00	108	143.80	114
East Hampton	70.33	77 (tied)	94.06	27
East Hartford	39.00	139	206.08	138
East Haven	55.67	117 (tied)	146.08	120
East Lyme	81.00	28 (tied)	94.52	28
Easton	91.00	1	94.74	29
East Windsor	58.00	113 (tied)	128.26	97
Ellington	75.00	54 (tied)	94.77	30
Enfield	65.33	96 (tied)	117.99	84
Fairfield	84.33	17 (tied)	108.62	60
Farmington	86.00	10 (tied)	90.72	17
Franklin	72.67	65 (tied)	122.18	91
Glastonbury	87.00	8 (tied)	80.79	7
Granby	79.33	35 (tied)	91.76	20
Greenwich	79.67	34	135.51	105
Griswold	65.00	100 (tied)	111.63	73
Groton	58.00	113 (tied)	149.67	122
Guilford	78.33	38	92.14	21
Hamden	52.67	127 (tied)	167.60	129
Hartford	32.67	140 (tied)	328.55	146
Hartland	76.67	45 (tied)	104.90	53
Kent	68.33	84 (tied)	139.05	110
Killingly	56.33	115	135.91	107
Lebanon	71.33	71	99.29	41
Ledyard	76.00	49 (tied)	93.43	22
Lisbon	78.00	39 (tied)	84.85	11
Litchfield	70.00	78 (tied)	107.53	58
District	GAA	Rank	CBV	Rank

Madison	87.67	6 (tied)	75.41	2
Manchester	49.67	131	163.97	128
Mansfield	81.67	22 (tied)	115.67	80
Meriden	39.67	138	198.84	135
Middletown	55.67	117 (tied)	157.73	123
Milford	68.67	83	120.84	89
Monroe	78.00	39 (tied)	94.04	26
Montville	59.33	109	135.78	106
Naugatuck	54.00	122 (tied)	128.91	98
New Britain	32.33	142	252.61	142
New Canaan	85.00	15 (tied)	130.04	99
New Fairfield	82.67	20	71.42	1
New Haven	28.00	146	388.75	147
Newington	74.00	60	110.31	68
New London	26.33	147	252.15	141
New Milford	74.33	58 (tied)	95.25	34
Newtown	86.00	10 (tied)	85.27	12
North Branford	71.00	72 (tied)	95.69	35
North Canaan	65.33	96 (tied)	145.05	119
North Haven	75.00	54 (tied)	100.25	43
North Stonington	65.67	95	144.54	115
Norwalk	46.67	135 (tied)	205.85	137
Norwich	49.00	132	158.00	124
Old Saybrook	80.00	33	93.69	25
Oxford	67.00	89 (tied)	114.34	77
Plainfield	51.33	129	160.12	125
Plainville	53.00	126	162.51	127
Plymouth	47.67	133 (tied)	144.79	117
Pomfret	81.33	25 (tied)	79.25	5
Portland	66.67	93	99.69	42
Preston	67.00	89 (tied)	135.40	104
Putnam	56.00	116	172.20	132
Redding	80.67	30 (tied)	120.96	90
Ridgefield	87.00	8 (tied)	86.29	13
Rocky Hill	76.67	45 (tied)	110.41	69
Salem	62.33	105	123.05	94
Salisbury	77.33	43	144.95	118
Sharon	77.00	44	144.71	116
Seymour	68.00	86	95.03	32
Shelton	71.00	72 (tied)	101.77	46
Sherman	88.00	5	78.42	4
Simsbury	84.33	17 (tied)	84.36	10
Somers	76.00	49 (tied)	87.55	14
Southington	71.00	72 (tied)	106.28	57
South Windsor	81.00	28 (tied)	94.80	31
Sprague	65.33	96 (tied)	117.25	83
Stafford	70.00	78 (tied)	110.11	67
Stamford	53.33	125	189.76	134
Sterling	45.00	137	141.44	111
Stonington	73.00	63 (tied)	101.85	47
Stratford	61.00	107	122.36	92
Suffield	87.67	6 (tied)	76.48	3
Thomaston	68.33	84 (tied)	100.73	44
Thompson	47.67	133 (tied)	142.67	113
Tolland	79.33	35 (tied)	95.07	33
Torrington	58.33	112	126.50	95
Trumbull	85.33	13 (tied)	89.34	16
Union	67.00	89 (tied)	127.43	96
Vernon	62.00	106	142.02	112
Voluntown	74.33	58 (tied)	104.60	52
District	GAA	Rank	CBV	Rank
Wallingford	69.00	80 (tied)	98.03	38
Waterbury	32.00	143	238.34	140
Waterford	76.00	49 (tied)	117.16	82

Watertown	66.00	94	100.86	45
Westbrook	80.67	30 (tied)	84.02	9
West Hartford	72.33	67 (tied)	109.84	66
West Haven	54.67	121	135.17	103
Weston	88.33	3 (tied)	111.55	72
Westport	90.33	2	130.79	100
Wethersfield	70.67	76	97.61	36
Willington	77.67	42	112.06	74
Wilton	85.33	13 (tied)	102.40	48
Winchester	52.67	127 (tied)	149.00	121
Windham	32.67	140 (tied)	297.61	143
Windsor	55.67	117 (tied)	161.06	126
Windsor Locks	58.67	110 (tied)	138.93	109
Wolcott	63.00	104	108.86	63
Woodstock	76.33	47 (tied)	82.85	8
Region 4	71.00	72 (tied)	168.83	131
Region 5	81.33	25 (tied)	80.11	6
Region 6	79.00	37	113.82	76
Region 7	80.33	32	119.58	7
Region 8	72.00	69	133.44	101
Region 10	75.33	53	97.88	37
Region 11	54.00	122 (tied)	210.93	139
Region 12	67.00	89 (tied)	168.64	130
Region 13	81.33	25 (tied)	109.07	65
Region 14	71.67	70	99.00	14
Region 15	81.67	22 (tied)	90.87	18
Region 16	73.00	63 (tied)	93.62	23
Region 17	76.00	49 (tied)	108.84	62
Region 18	85.00	15 (tied)	111.06	70
AVERAGE	67.99		128.34	

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