K-12 Regionalization in Connecticut: Pros, Cons and Surprises

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Introduction

School districts in Connecticut are considering regionalizing their K-12 education services. This report provides a comprehensive literature review to help inform those efforts.  

K-12 regionalization involves combining districts with the possibility of closing schools. It may affect - harming or improving - education outcomes by increasing the number of students in a district and in individual schools. Therefore, this literature review also looks at the consequences that the size of student enrollment has on educational achievement. Towns should weigh potential cost savings versus the consequences to educational achievement when they deliberate on whether or not to regionalize their local school system. This literature review focuses on what is known about the impacts of K-12 regionalization on education expenditures and educational achievement. The findings are based predominantly on more recent empirical studies published since 2000.

What is K-12 Regionalization?

K-12 regionalization includes combining school districts, boards of education, and central office staff. This can result in closing schools, eliminating teaching positions, reducing administrative staff, and increasing student-to-teacher ratios, among other consequences.

K-12 regionalization is often promoted with the goal of reducing costs by leveraging economies of scale and eliminating duplication of services. Fiscal research on K-12 regionalization focuses on maximizing economic efficiency and overlooks the consequences to educational achievement and the benefits from student participation in extracurricular activities, greater student/parent engagement, small student-to-teacher ratios, wrap-around services, summer programs, school health clinics, and school community partnerships.

Local Government in Connecticut

Connecticut, like other New England states, relies mainly on municipalities to provide government services, including K-12 education, to its residents.

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In 2017, there were 196 public school districts including town districts, charter school districts, regional districts, and regional education service center districts. The student population in these districts ranged from 140, in the one-school district of Elm City Montessori School, to 21,981 in New Haven.

Connecticut residents have historically favored small local government. Consequently, municipal services, including K-12 education, are difficult to cost-optimize because there is a lack of economies of scale. Connecticut’s towns provide 56 percent of K-12 public education revenues through local property taxes, which is the fourth-highest percentage contribution from property taxes among the 50 states.

From 2010-2011 to 2016-2017, the state’s public school enrollment dropped by 25,606 students - a decline in enrollment of 4.5 percent. Most Connecticut school districts have declining enrollments and it is more prevalent in rural areas. There is also a rapid aging of the state’s population. Baby Boomers who pay property taxes are entering retirement in large numbers and for most their incomes will decline. Consequently, it is becoming increasingly problematic for the state’s 169 municipalities to continue to rely heavily on local property taxes to pay for education services.

**Does School District Regionalization Always Reduce Costs?**

The impetus for K-12 regionalization is to reduce expenditures through increasing fiscal efficiency by eliminating duplication of services at both the central office and in schools. Central office administrative services include superintendents, assistant superintendents, administrative staff, custodial services, building management, transportation, business services, and grant administration. Education services include principals, assistant principals, coaches, special education services, English learner services and teachers.

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The Federal Reserve Bank of Boston undertook a study to determine whether regionalization of school districts in New England would result in cost reductions via economies of scale. They reported that reductions in the cost of education services could be achieved “…from closing very small schools, but also from breaking up very large schools.” They also found that economies of scale that reduce costs for businesses are not as applicable to public education services. Similarly, a 1981 national analysis of school-level data found that very small schools and very large schools are the most expensive.²

Potentially, both economies of scale (cost reductions) and diseconomies of scale (cost increases) are possible when regionalizing school districts.³ ⁴ ⁵ Economies of scale might be achieved by:

- reducing central office staff
- reducing school staff
- maintaining fewer buildings
- implementing higher volume and lower cost purchasing, and
- lowering wages/salaries

Conversely, regionalization may lead to diseconomies of scale resulting from:

- higher transportation expenses because of longer bus routes
- overall increases (leveling up) in staff salaries because of seniority and/or contract renegotiation, and
- increases in the number of mid-level administrators and administrative support staff.

While it seems apparent that the closing of school buildings will reduce costs, savings are limited because there may not be buyers, and the facilities still must be maintained by the school district.⁶ In already struggling neighborhoods, these now empty school buildings (with boarded windows) contribute to a downward economic spiral by attracting scavenging, dumping, drug users, and graffiti. The neighborhood children who previously attended the now closed school are then exposed to an increase in crime resulting from the blighted property. Connecticut’s Black and Hispanic children are already disproportionally overexposed to crime in their neighborhoods.⁷

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Aside from capital expenditures, the largest portion of a school budget goes to employee salaries and benefits, with most expenditures being at the school level, but district size can also contribute markedly to spending.\(^1\) As researcher Timothy Zimmer states: “The larger a district becomes, the more resources are devoted to secondary or non-essential activities.” \(^3\)

Expenditures on administrators are both positively and negatively linked to enrollment. For low enrollment districts, per-pupil expenditures on administrators initially decline as enrollment increases (i.e., economies of scale).\(^4\) However, there comes a tipping point at which expenditures on administrators begin to increase disproportionately with more student enrollment (i.e., diseconomies of scale). Per-pupil expenditures linked to teachers are not affected by the number of students. Furthermore, reductions in costs have been found even when teacher salaries are treated as “endogenous” (essential) because “Teachers are the most important input in the education production process.” \(^5\)

In 1999, a report from the New Jersey Assembly Task Force on School District Regionalization concluded: “Sharing administrative services doesn’t necessarily cut costs, because as personnel begin to take on region-wide responsibilities, it often becomes necessary to hire more staff to support them.” \(^6\)

From an economic perspective “there is a trade-off between economies of scale and economies of competition” such that consolidating school districts reduces competition for education services, which then leads to inefficiencies.\(^7\) However, the time teachers spend on administrative tasks increases when there are insufficient administrative resources in a school, resulting in teachers having less time to spend on preparing for their classes.\(^8\)

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There is some agreement that large districts can have diseconomies of scale when they have too much administrative staffing (i.e., the central office). Nationwide from 1970 to 2009, the size of administrative staff grew by 92 percent while the student population grew by only 2 percent.¹

Figure 1 shows per-pupil expenditures for school districts in Connecticut. There are large districts (enrollment greater than 15,000) with below average expenditures (e.g., Bridgeport and Waterbury) and districts with above average expenditures (i.e., Hartford, New Haven, and Stamford). Similarly, small districts (enrollment less than 500) can have above average expenditures (i.e., Cornwall) or below average expenditures (i.e., Sprague).

Expenditures reflect either what a school district can afford or what taxpayers in a district want to spend. Consequently, expenditures are not an accurate measure of the true cost of education. Wealthy districts may spend more because they can afford it and poor districts may spend less because they lack sufficient revenues.²

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Even when regionalizing does reduce per-pupil expenditures in small rural districts, it is unlikely to significantly affect education costs statewide because rural areas have considerably fewer students compared to suburban and urban districts. For example, reducing per-pupil expenditures by $1,000 in Connecticut’s three largest districts (Hartford, Bridgeport, and New Haven) would create a combined savings of about $61.5 million. In contrast, a $1,000 per-pupil reduction in the three smallest districts (Canaan, Union, and Cornwall) results in a combined savings of only $350,000. In this scenario, the 129 lowest enrollment districts would each have to reduce expenditures to equal the combined savings from Hartford, Bridgeport, and New Haven.

When considering the pros and cons of regionalization, high school graduation rates can be treated as a fiscal issue. Each high school dropout may cost taxpayers an additional $292,000 during the dropout’s lifetime because dropouts have lower incomes (i.e., lower tax revenues) and are more dependent on government social programs.1 (Each high school graduate in effect creates a combined savings of $292,000 in future social cost to local, state, and federal governments.)

**Does the Number of Students in a District Affect Educational Achievement?**

K-12 regionalization combines two or more districts into one larger district. Therefore, education outcomes linked to the number of students in a district are important to consider, since the new consolidated district will have more students than each of the single districts that merged.

Closing a school may increase travel time to/from school for students and parents. This added travel time may result in fewer parents volunteering in their child’s classroom and lower participation in extracurricular activities. Furthermore, school closings can create longer bus rides increasing opportunity cost (i.e., time lost for doing other tasks) for parents and students.2 The negative consequences of long bus rides on educational achievement are varied. Declines in achievement scores, increasing truancy and more dropouts can be expected.3 Also, teens experience declining health when they have long commutes to/from school.4

Both student and parent engagement declines as district enrollment increases because the added bureaucracy creates new barriers for them to overcome.5 Subsequently, apathy increases among both students and parents, as does student absenteeism, resulting in lower educational achievement. Parents may also have less influence on K-12 education policies as boards of education merge and more voices are added to policy debates.

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There is no consensus for the most cost-effective district size. Looking at Figure 2, when the focus is on being cost-effective, recommendations range from 750 to 5,000 students in a district.\(^1\) In Indiana, a school district enrollment from 1,300 to 2,900 was found to be most cost-effective.\(^2\) In New York State and Michigan, the most cost-effective district enrollment ranged from 2,900 to 3,380.\(^3\) Findings from these three states show an overlap at a district enrollment of 2,900. (The Indiana, Michigan, and New York research did not consider educational achievement – only per-pupil costs.)

The Center for Business and Economic Research at Ball State University reports that the optimum corporation (district) size to obtain the highest education outcomes is 2,000 to 2,999 students, which is consistent with Figure 2.\(^4\) They recommend providing districts with a best practices how-to guide to help districts navigate the myriad of considerations before regionalizing.

![Figure 2: Recommended Student Enrollment](image)

A 2010 UConn analysis of Connecticut school districts determined that high school education outcomes are most efficient when total enrollment in grades 9-12 equals roughly 2,800.\(^5\) For grades 9-12, districts are considered more efficient when fewer district-level resources (i.e., student-to-teacher ratio, admin-student ratio, computer student ratio and hours of instruction) result in disproportionately higher education outcomes (i.e., standardized test scores in math, reading and writing).

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Looking at Figure 2, UConn’s optimal educationally-efficient enrollment of 2,782 students fits within the optimum range for both educational achievement (260 to 2,925 students) and being cost-effective (750 to 5,000 students) for districts. Considering that the UConn calculations used inputs that can be linked to expenditure (i.e., student-to-teacher ratio, admin-student ratio, computer student ratio and hours of instruction), it may not be a coincidence that their optimum enrollment of roughly 2,800 also fits within the range of optimum district size for both educational attainment and lower expenditures.

It is important to emphasize that the inputs in the UConn calculations were district-level and the education outcomes were for only a subset of grades in a district – grades 9 to 12. Because of this use of district-level inputs, it may be appropriate to interpret these findings as meaning that a district (not high school) enrollment of roughly 2,800 is the most academically efficient for education outcomes. When using these findings for public policy, it is prudent to consider that this analysis used district-level resources to analyze a subset (i.e., high school) of a district’s student enrollment resulting in a bit of an apples-to-oranges comparison.

If Connecticut has a school district that is a benchmark for high education outcomes at a relatively low cost, it would be Ellington. In the 2015-2016 academic year, the Ellington school district had a K-12 enrollment of 2,633 and the second-lowest per-pupil expenditures statewide at $12,985. Ellington also has high education outcomes, being classified in DRG group B. The district has three elementary schools ranging in enrollment from 201 to 430 and one high school with an enrollment of 771. Referring to Figure 2, all schools in Ellington have less than the maximum enrollment recommended for fostering educational achievement among advantaged students. Furthermore, Ellington had a low ratio of 1.3 administrators per 100 students - below the state district average of 1.56.

Figure 3 shows that all school districts in Connecticut with an enrollment from 2,500 to 3,000 had per-pupil expenditures below the state district average, which is consistent with recent empirical research.

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There is sparse evidence that large school districts produce better education outcomes and more evidence that large districts are generally detrimental to education outcomes.\textsuperscript{1, 2} Therefore, when merging districts through K-12 regionalization, care should be taken not to create new regionalized districts that are too large.

**Does the Number of Students in a School Affect Educational Achievement?**

A 2010 report by the Center for Evaluation & Education Policy at Indiana University Bloomington states that “…about half of [student-achievement] research demonstrates no difference in achievement due to school size, while the rest suggests higher achievement rates in small schools.”\textsuperscript{3} In contrast, a separate 2009 review of 57 empirical studies conducted after 1990 reports: “The weight of evidence provided by these studies clearly favors small schools.”\textsuperscript{4} These mixed findings and the resulting confusion results, in part, from vagueness in academic literature on what classifies as a small school or a large school.

Two indirect avenues by which school size affects educational achievement are parental involvement and positive student-teacher relationships. Students are more likely to have higher educational achievement when parents are involved either academically (e.g., helping with homework) or socially (e.g., parent conferences, school committees) in their child’s education. Parents are more engaged when their children attend a small school/district.

High Schools

When it comes to an optimum enrollment for educational achievement in high school, proponents of small or large schools can each point to specific research to support their position. However, often there are concerns about the data and methodology used. In particular, research that has found large schools to have better education outcomes often does not account for dropouts. “Lack of attention to dropout rates in studies favoring large schools seriously undermines the confidence we can have in their results.” Some researchers believe that education outcomes in large high schools are artificially high because low performing students were weeded out when they dropped out of school.

A nuanced perspective may be seen in a recent randomized controlled-trial evaluation of urban high schools in New York City (NYC) that found new small high schools (opened in 2003, or later, under Mayor Bloomberg) had better education outcomes than both large high schools and older small high schools. Unlike prior analyses of small high schools, this quantitative analysis corrected for selection bias wherein small high schools specifically attract students predisposed towards higher academic achievement. These new small high schools in NYC had better education outcomes not just because they had lower enrollments. These small high schools also had high academic expectations and were given more resources than the old high schools (both small and large).

Students who are involved in extracurricular activities (e.g., band, sports, clubs) have higher graduation rates and it is widely accepted that participation in extracurricular activities decreases as enrollment increases.

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When schools are too large, there is competition among students to participate in extracurricular activities and this can leave some students on the sidelines. Student participation in after-school activities starts to decline in high schools with a population greater than 900. However, when schools are too small, they may not offer after-school activities because of insufficient students to participate in after-school activities when they spend too much time on the bus getting to and from school.

**Elementary Schools**

A comprehensive review of empirical findings for elementary schools shows clearly that children have higher educational achievement when attending a small elementary school. There is near consensus that small elementary schools result in higher educational achievement, or at a minimum, do not negatively affect educational achievement. Reasons for better education outcomes in small elementary schools include (1) increased parental involvement, (2) higher attendance rates, (3) a positive attitude among teachers, and (4) that they are better at identifying children who are falling through the cracks. However, a drawback of small schools is that the student and teacher population may be homogeneous and not reflect the diversity of a region's residents.

In 2006, a robust analysis of third and sixth grade students in Indiana elementary schools found a significant quantitative link between changes in elementary school size and achievement - as enrollment increased, student achievement decreased. Regionalization of Indiana's elementary schools "...lowered student achievement significantly, with a predictable future economic cost ..." Alternatively, the researcher Ilyana Kuziemko, an economist, estimated that replacing large elementary schools with small schools (instead of consolidating into larger schools) could result in a net gain of $12,774 (2001 dollars) per-pupil in lifetime income. If there are additional costs from building new schools, Kuziemko estimates there could still be a net gain of $4,540 per-pupil.

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The literature suggests that in order to foster high education outcomes, elementary schools should not exceed an enrollment of 500 except for those serving disadvantaged students, which should have a maximum enrollment of 300.¹

**Disadvantaged Students Benefit from Small Schools**

Students from advantaged (i.e., high socioeconomic status) households have similar educational achievement in both small and large schools.² However, the situation is much different for students from low-income communities for whom “…smaller [school] size mediates the association between socioeconomic status and achievement.” The potential for high educational achievement diminishes for at-risk students when they attend large schools that are disconnected from their communities.

Teachers can be better involved in the lives of their students in small schools with low student to teacher ratios. This gives teachers the time to be mentors with whom students can share their academic struggles and personal concerns. For disadvantaged students or at-risk populations, small schools (elementary, middle, and high school) allow staff to provide students this greater care and attention. This is highly beneficial for at-risk students and results in lower absenteeism and lower dropout rates.³

Findings from research on 264 K-8 Chicago schools concluded “…that [small] school size influences [(i.e., improves)] student achievement directly…through its effect on teacher attitudes.”⁴ In Georgia, in 2000, data from 367 elementary schools and 298 high schools throughout the state were analyzed. The results are that small schools improve academic performance of disadvantaged students without harming the learning of advantaged students. Similar results were obtained in a statewide analysis of 1,001 schools in Texas.⁵

Do Small Learning Communities in Large High Schools Improve Achievement?

Small Learning Communities (SLCs), or schools-within-schools, have been tried as a way of creating a small-school setting in large urban high schools having low education outcomes.

In California, research on 20 large high schools that adopted the SLC model found no effect, or possible negative effects, on educational achievement.¹ In Florida, students (including minorities) attending traditional large high schools had better education outcomes than students in SLCs.² Inconsistencies in implementation of SLCs was one factor. The author was clear to distinguish SLCs from small schools: “A smaller learning community school, however, is not the equivalent of a small school.”

A 2016 dissertation documented the realities of embedding a Small Learning Community (SLC) in a large urban high school in Massachusetts.³ Teachers felt the SLC resulted in small class sizes and greater personalization with students and that this was important for African-American and Hispanic students. Student-teacher interaction increased, as did mutual trust. The SLC did create a situation where teachers could provide personalized help to close gaps in students’ knowledge or to spend more time on topics with which students had trouble. However, the mandate for a standardized curriculum, which was focused on passing the Massachusetts Comprehensive Assessment Systems (MCAS) test, was not conducive to personalized learning.

The author of the dissertation, who is a teacher, writes: “One major factor preventing teachers from discussing their opinions in order to increase our understanding of SLCs and student learning is that in many instances the bureaucrats (i.e., administrators) who are in charge of implementing the reform agendas ignore the teacher’s perspectives.”⁴

Overall, education outcomes from SLCs are uncertain and there is a risk that SLCs are merely “in name only”, with students taking most classes outside of their assigned SLC.⁵ A common problem with SLCs is that they have either not been fully implemented or have been poorly implemented.

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This report is not meant as a review of education outcomes of SLCs. The academic literature on the effects of SLCs on educational achievement is uncertain and a comprehensive review is needed before SLCs are considered a viable educational alternative to K-12 regionalization in Connecticut.

**Risks to Rural Communities**

Rural communities that close their local school because of regionalization later experience social disintegration because the school is no longer central to the community. In contrast, rural communities that keep their schools open fare better socioeconomically.

Closing a school building in a small rural community could result in a decrease in local tax revenues because of the exodus of teachers and school administrators who move to another town to be closer to work. Local businesses that provided goods and services to the local school may also be harmed and experience a decrease in sales. Data shows that even the smallest rural community benefits when there is a local school because the school has the potential to:

- increase local housing values
- increase the tax base
- create demand for new housing
- lower poverty rates
- attract high-income professional workers
- attract self-employed workers with higher incomes.

Students in rural districts may travel long distances on a bus both getting to/from school and before/after school activities. Travel time to/from school should be considered when weighing the pros and cons of regionalization because travel has negative consequences for education outcomes, as discussed earlier in this report. Rural schools also have challenges finding qualified teachers as travel time increases.

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State-Specific Studies

Connecticut

In Connecticut, there are seventeen regional (i.e., more than one feeder town) school districts. The distribution of grades (PK-12) varies between these districts. Eleven of these regional districts have all grades, PK to 12.

In 2010, the Region 7 school district (grades 7-12 in northwestern Connecticut) considered adding elementary schools (grades PK-6) from feeder districts into Region 7. Because feeder towns did not want to close their elementary schools, the plan called for all elementary schools to remain open - no consolidation of elementary schools took place. The Region 7 Study Committee determined there would not be a significant cost savings from including elementary schools in Region 7 unless the elementary schools were consolidated. The committee voted not to include the elementary schools in Region 7.

A separate 2010 Connecticut-specific report on rural high schools found that high school expenditures were not substantially different among rural school districts in the state. Furthermore, while large high schools provided more advanced courses and greater access to technology, this benefit is waning as technology becomes widespread in all schools. No significant difference was found in SAT I scores between large and small rural high schools. (The researcher did not define small or large.)

Another Connecticut-specific analysis looked at reducing education costs through sharing of services, without combining districts, and found that shared services are not always successful and could increase costs. Some districts were cooperating and reducing costs while other districts had no interest in cooperation.

Examples of cost savings in the report were modest, and the state should not rely on shared services to make a significant dent in the state’s K-12 education budget of over $4 billion annually.
Maine

In 2007, Maine passed a law requiring K-12 regionalization with the goal of improving educational opportunities and reducing costs. The state's goal to make K-12 education cost-effective by regionalizing was difficult to achieve because both local school boards and local voters had to approve the closing of a school. In addition, reorganization plans also needed voter approval.

There was much anxiety and distrust between districts, especially when one district was larger than the other(s). Small towns feared losing local control over finances and education quality. Some schools had to cut back on programming to achieve equity among schools in their newly regionalized district. In other cases, “... improvements were not always of equal magnitude across the partnering schools and towns ...”

It remains unclear if the regionalization of school districts in Maine resulted in lowering K-12 education expenditures. However, the forced approach was widely unpopular with residents. Many of the districts that were forced to regionalize have since disbanded.

New York

From 1987 through 1995 in upstate New York, twelve rural school districts, with student enrollments ranging from 250 to 1,990, were regionalized. The largest new regional district had a student enrollment of 2,910. (In Connecticut, 2,500 to 3,000 may be an optimum enrollment for cost-effective schools.) Excluding capital spending (e.g., new school construction), empirical findings from 2007 showed significant economies of scale were obtained for operating costs, instructional cost, teaching and central administration through regionalization of these small districts. Per-pupil transportation costs declined but not markedly.

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Initially, newly regionalized districts had a sharp increase in costs, but these expenses decreased over time and were justifiable given the overall cost reductions. However, when regionalization required new capital expenditures, the savings from economies of scale were reduced to the point that little costs savings may be obtained in the long-term. The effects rural regionalization had on educational achievement were not considered.

A later follow-up study of rural school consolidation in New York State found that the improvements in educational achievement expected from consolidation were not always realized. Among their recommendations they suggest (1) rural districts should be allowed to find their own solutions, and (2) facilitating rural schools being schools of choice for urban students.

Vermont

In Vermont, like Connecticut, K-12 regionalization has been proposed as way to deal with a declining K-12 population and rising education expenditures. Empirical evidence from other states suggests that regionalization of the smallest schools in Vermont could lead to savings through economies of scale. These same issues are relevant to rural areas of Connecticut because of an aging of rural population and the decline in the number of children living in rural areas.

In January 2010, Vermont enacted Act 153 with the goal of incentivizing voluntary mergers of school districts throughout the predominantly rural state. It was assumed that regionalizing small districts would improve educational opportunities and reduce education expenditures through economies of scale. Incentives to regionalize included temporary reductions in property tax rates, grants, and reimbursement for the legal and consulting fees of merger committees. Three years after Act 153 had been enacted (end of 2012), only eleven merger studies had been completed, only six proposals put to a local vote, and only two regionalization proposals approved.

A survey of Vermont voters reported that voters believed saving money was the most important benefit to be derived from school regionalization. The second most important perceived benefit was a tie between increased opportunities and enhanced quality, but the state’s merger process did not include a way to measure either of these. These same voters also said that loss of local control was the most important risk. Based on results from this survey, Vermont voters had not grasped that saving money may inherently include loss of local control. Vermont voters had conflicting goals, which could also be expected from Connecticut voters.

In 2010, increasing property taxes for K-12 education had been the impetus for enacting Act 153; yet the loss of local control proved to be more important to rural voters. Furthermore, the state did not institute objective measurements for education outcomes, which would have shown whether regionalization had improved educational achievement. In 2014, researchers from Washington State University and the University of Vermont concluded: “Vermont’s initiative [Act 153] to encourage voluntary school mergers is not likely to achieve the results intended by the legislature.”

In 2015, Vermont enacted Act 46 to correct the flaws in Act 153 and further incentivize school districts to merge without forcing small districts to do so. Act 46 has been much more effective than the initial Act 153. From July 2015 through January 2018, 135 school districts merged into 31 districts, but not all districts chose to merge. In 2017, Act 49 was passed with further actions to foster school district mergers.

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“...[S]ome consolidation has produced diseconomies of scale that reduce efficiency. In such cases, deconsolidation is more likely to yield benefits than consolidation.”

While more than 30 new merged districts have been created since 2010, only four districts have been operating for more than one year. Consequently, there is not currently sufficient information to know whether regionalization in Vermont resulted in the desired cost savings without harming educational achievement.

### Deconsolidation

It is often assumed that K-12 regionalization will eliminate duplication in administrative costs and thereby reduce expenditures. However, this does not always happen.

In some cases, reductions in K-12 costs might be obtained by deconsolidation – breaking up large districts. Estimates were done comparing the cost savings from regionalization versus deconsolidation in Michigan. Two hypothetical scenarios showed that consolidating small districts to 2,900 students might result in a cost savings of about $31 million annually. In contrast, breaking apart districts larger than 2,900 might result in an annual cost savings of about $363 million. Hypothetically in Michigan, deconsolidating large districts has the potential to generate 12 times the savings that might be obtained from consolidating (regionalizing) small districts. Furthermore, proponents of more school choice for parents should consider that deconsolidation inherently increases the number of schools, thereby increasing school choice.

Florida, North Carolina, Nevada, New Mexico, Pennsylvania and Wisconsin have considered school district deconsolidation to decrease K-12 education spending and improve education outcomes.

### Summary: Pros, Cons, and Surprises

Generalizations about regionalization oversimplify a complex topic. Most importantly, regionalization of school districts does not always lead to reductions in expenditures – neither short-term nor long-term. Furthermore, promoting regionalization from a perspective of being cost-effective must also consider that “...students and communities may be losing their voices and power through the application of a business practice [mergers] found to have a 50% failure rate.”

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1 Email from Donna Russo-Savage (VT Agency of Education) received 20 February 2018.
If business mergers are successful only half of the time and a business perspective is used to justify regionalization, then why would regionalization have a higher success rate?

Ideally, regionalization of school districts should both reduce per-pupil expenditures and improve educational achievement – or at least not lower educational achievement. Even when regionalization creates economies of scale without harming educational achievement, these economies of scale may not last for long. Data from 292 schools in Indiana during a 3-year period from 2004 to 2006 was used to explore fiscal aspects of regionalization and found “that economies of scale do not lead to lower per-pupil costs in perpetuity.”

As an alternative to regionalization, small districts might reduce expenditures by sharing administrative staff (including superintendents), cooperating on contractual services, adopting distance learning for specialized courses, and using Regional Education Service Centers (RESCs) when districts lack resources. Even after taking all possible steps to reduce expenditures, rural districts may still have high per-pupil expenditures because of the large geographic area they cover and the small number of students they serve.

For disadvantaged students in urban areas, deconsolidation may reduce per-pupil expenditures and increase educational achievement. If given a choice, urban parents may prefer having their children attend a smaller school district where they can also be more engaged in their childrens' education.

Figure 4 shows the various enrollment ranges that are either cost-effective or have good education outcomes for districts. A range of 2,500 to 3,000 students is considered optimal for cost-effectiveness because all districts in this range (in Connecticut) have below average student expenditures (see Figure 3). The 2,500 to 3,000 range also overlaps with cost-effective districts in Indiana, Michigan, and New York. This optimum range also overlaps with educationally efficient districts in Connecticut and the recommended range for best educational achievement from empirical research. Connecticut’s optimum district size (2,500 to 3,000) is suggested as a benchmark (sweet spot) for analyzing the cost and education outcomes of school districts in the state. In fact, data from both New York and Massachusetts found the greatest rate of savings (over 20 percent) is obtained when combining smaller districts into a single district with a maximum enrollment of about 3,000.

3 Email from John Yinger received 06 February 2018.
In Figure 5, districts in the top-right quadrant might reduce expenditures by deconsolidating or reducing administrative expenditures. Assuming a reduction of $1,000 per-pupil, the combined savings from the 14 districts in the top right quadrant would be roughly $118 million annually. Districts in the bottom-right quadrant are high-cost and low enrollment and might reduce expenditures by regionalization. Assuming a reduction of $1,000 per-pupil, the combined savings from the 57 districts in the bottom right quadrant would be roughly $51 million annually. Furthermore, the long-term costs of constructing new buildings to house a larger consolidated student population can be significant.

Understandably, each community focuses on their current expenditures for K-12 education; however, there are also long-term social costs that are borne by a broader group of taxpayers when students do not complete high school. Estimates are that each high school graduate represents a combined savings of $292,000 in future social spending by local, state, and federal governments. In the 2014-2015 school year, there were 3,186 dropouts in Connecticut that could potentially cost taxpayers $930 million over the dropouts’ lifetime. Viewed from a different perspective, if all had graduated there would be a $930 million savings to taxpayers. This reflects just the hidden long-term savings to taxpayers from one year of dropouts. These savings, or costs, would accumulate year after year, depending on the dropout rate.

While there is no single one-size-fits-all answer on school size and educational achievement, well resourced and academically rigorous small schools have the potential to create an environment for improved education outcomes. Large schools are seen as not welcoming to either parents or students and “...create an impersonal climate that contributes to school failure for some students.” In his 2010

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review of Connecticut high schools, Joseph Cullen concludes “...that the factors that mitigate the effects of school size are myriad and appear to include the demographic, socioeconomic, cultural, and geographic characteristics of a given community.”

The Connecticut State Department of Education reports that some wealthy school districts can afford higher expenditures and voluntarily choose to spend more on K-12 education.¹ In stark contrast, while the poorest districts in Connecticut may want to spend more on K-12, they lack the financial means. For this reason, an accurate analysis of true educational costs would be based on actual costs – not on existing expenditure data, which is misleading or based on legislative appropriations.

Whether regionalizing or deconsolidating, goals should include tangible improvement in education outcomes. One study recommends the following should be issues for consideration:²

1. Sustain the smallest schools in the poorest communities.
2. In communities that serve all social classes, do not build large schools.
3. In affluent communities (or attendance zones), do not build high schools larger than 1,000 students.
4. Keep elementary and middle schools proportionately smaller than high schools.
5. When building new schools, keep schools everywhere smaller than recommended in the 20th century.
6. Provide appropriate and adequate support to smaller schools; small size improves the odds of success, it does not guarantee it.
7. Attend to rural and urban issues of size with equal care.
8. Regard smaller school size and reform as distinct issues, but do not hesitate to innovate in smaller schools.
9. Base smaller schools in extant communities so as to avoid the intentional concentration of impoverished students from mixed-SES communities into smaller schools (e.g., as in contemporary so-called “alternative schools.”).
10. Doubt that an educationally-relevant lower limit of school size exists. Much depends on context, and even in the contemporary world, dedicated parents educate very small groups of children with remarkable success at home.

As the considerations listed above show, a decision to regionalize or deconsolidate should be thoroughly informed by the unique set of circumstances that come with every community. Policies that call for wholesale regionalization based on imposed criteria (e.g., minimum/maximum number of students) can have unpredictable, and often adverse, consequences.

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