

When is Small Too Small? Efficiency, Equity & the Organization of Vermont Public Schools

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Executive Summary

In January, 2015, graduate students from Penn State University released a report on Vermont's education system, seemingly in an effort to head off proposed changes to state education finance policies that might increase pressure on very small districts and schools to consolidate. Conflating consolidation at the district level with consolidation at the school level, among other policy recommendations, the report suggested that the current small schools grant be increased, not decreased, and also restructured, so as to help sustain small schools. The report also suggested that any lowering of the "excess spending threshold" include exemptions for very small schools so as not to put unnecessary budgetary pressure on those schools.

The Penn State report, however, presents a skewed characterization of the literature on a) school size, and b) consolidation, to support their conclusions. Further, the report fails to appropriately relate data on actual Vermont schools and districts to that literature in any way. Indeed, the report lacked any mention to empirical size conditions in Vermont, whether at the district or school level. As such, the policy recommendations of the report are misguided, at best.

Preliminary analyses presented herein show that:

1. Vermont's very small school districts experience a combination of:
 - a. higher spending than both like and neighboring states;
 - b. higher taxes than like and neighboring states;
 - c. less comprehensive academic programs than could be provided at scale.
2. High costs vis-à-vis student enrollment are most evident in tiny elementary schools and districts
3. Program breadth and depth may be compromised in the state's very small high schools

Vermont remains consistently among the highest spending states in the nation when it comes to elementary and secondary education, and spends a greater share of its economic capacity on schools than any other state.

This is becoming increasingly problematic for the state because since 1997, Vermont has seen consistently declining student enrollment.¹

In contrast with recommendations from the Penn State report, consolidation options should not be taken off the table in Vermont, and the state should scrutinize small school subsidies and spending cap exemptions which reduce incentives to more efficiently organize districts and, potentially, schools. The best empirical literature does suggest that consolidation of very small districts and schools as exist in Vermont can lead to long run cost savings as well as improve equity in access to curricular and co-curricular opportunities. Further, district reorganization in the cases mentioned herein may lead to greater property tax equity. Importantly, district consolidation and school consolidation are two distinct things which may be considered in tandem or as separate measures by Vermont's communities and law makers. This brief addresses each of these two separate forms of consolidation in turn.

¹ http://education.vermont.gov/documents/EDU-AOE_slides_for_VSBA_meetings.pdf

Introduction

In January, 2015, graduate students from Penn State University released a report on Vermont schools, seemingly in an effort to head off proposed changes to state school finance policies that might increase pressure on very small districts and or schools to consolidate. The report's central conclusion was as follows:

A century of research strongly suggests neither district consolidation nor the elimination of the Small Schools Grant will produce needed reforms. In sum, a balanced and capacity--building strategy, rather than consolidation, offers the greatest potential to accomplish necessary economic and educational reforms. (p. 10)²

Among other policy recommendations, the report suggested that the current small schools grant be increased, not decreased, and also restructured, so as to help sustain small schools (see p. 9). The report also suggested that any lowering of the "excess spending threshold" include exemptions for very small schools so as not to put budgetary pressure on those schools.³

The report, however, presents a selective, inaccurate, and imbalanced characterization of the literature on a) school size, and b) consolidation at district and school levels (which are two different things), to support their conclusions. Further, the report fails to appropriately relate data on actual Vermont schools to that literature. Indeed, the report lacks any real address of the empirical conditions actually present in Vermont. As such, the policy recommendations of the report are misguided, at best.

In this policy brief, we begin by reviewing relevant, empirically rigorous literature on school size, consolidation at district level and school level, and education-related costs. Next, we consider the position of the State of Vermont among New England states in terms of education spending and the share of state capacity spent on K-12 schooling, based on data from the most recent five years of our award winning⁴ national report card on state school finance systems: *Is School*

² <http://www.ed.psu.edu/crec/policy-brief>

³ The report explains: Lowering the threshold therefore places greater burden on small, rural towns, perpetuating the inequities that Act 60/68 was designed to prevent. Therefore any reduction in the excess spending threshold must include small school exemptions to minimize size--- based inequities. (p. 8)

⁴ 2013 - AERA Division L Policy Report Award for Baker, B. D., Sciarra, D. G., & Farrie, D. (2010). *Is School Funding Fair?: A National Report Card*. Education Law Center.

*Funding Fair?*⁵ Put simply, is Vermont putting up disproportionate effort to maintain its current system?

Following this, we then review long term trends in enrollments and numbers of schools in Vermont. We evaluate the relationship between school and district level spending, tax rates, and school and district enrollment size and organization. We conclude with analyses of specific zones within the state where consolidations might significantly reduce costs, expand program access and improve equity of opportunities across children.

Research on School & District Size & Consolidation

We begin with a brief review of the most relevant, methodologically rigorous literature pertaining to the questions at hand. First and foremost, when discussing “small schools,” the benefits of “small schools,” and issues pertaining to consolidation it is critically important to define what is meant by “small,” and, for that matter to differentiate smallness by grade levels and ranges served. This establishes the parameters for analysis in clear, precise, and consistent terms.

In one of the most comprehensive reviews of literature on economies of scale in education, Andrews, Duncombe, and Yinger (2002) concluded:

The best of the cost function studies suggest that sizeable potential cost savings in instructional and administrative costs may exist by moving from a very small district (500 or fewer pupils) to a district with ca 2000-4000 pupils. The findings from production function studies of schools are less consistent, but there is some evidence that moderately sized elementary schools (300-500 students) and high schools (600-900 students) may optimally balance economies of size with the potential negative effects of large schools.⁶

That is, district level per pupil costs tend to level off as district enrollments approach 2,000 pupils. Districts enrolling over 2,000 pupils are able to produce comparable outcomes to smaller districts at much lower per pupil costs. The authors also note that this finding is consistent with literature on student outcomes in schools of varied sizes, which finds that high schools of around 600 to 900 pupils seem to be optimal in terms of production of student outcomes. Lee and Smith (1997) note:

⁵ Available at: <http://schoolfundingfairness.org/>

⁶ Andrews, M., Duncombe, W., & Yinger, J. (2002). Revisiting economies of size in American education: are we any closer to a consensus?. *Economics of Education Review*, 21(3), 245-262.

Results suggest that the ideal high school, defined in terms of effectiveness (i.e., learning), enrolls between 600 and 900 students. In schools smaller than this, students learn less; those in large high schools (especially over 2,100) learn considerably less.⁷

In many states and metropolitan areas around the country, a school district enrolling 2,000 pupils is small and a high school with fewer than 900 pupils in grades 9 to 12 is small. Thus, we often see these studies used as a basis for arguing that smaller is better. In Vermont, however, these would be among the largest schools and districts in the state.

Building on this work, Duncombe and Yinger (2007) estimate models of the potential cost savings of consolidating very small school districts in rural upstate New York. Their work is particularly important to this discussion because many of the conditions in the rural areas they studied are comparable to the contexts found in Vermont. Duncombe and Yinger (2007) found that:

We find economies of size in operating spending: all else equal, **doubling enrollment cuts operating costs per pupil by 61.7 percent for a 300-pupil district and by 49.6 percent for a 1,500-pupil district.** Consolidation also involves large adjustment costs, however. These adjustment costs, which are particularly large for capital spending, lower net cost savings to 31.5 percent and 14.4 percent for a 300-pupil and a 1,500-pupil district, respectively. Overall, consolidation makes fiscal sense, particularly for very small districts, but states should avoid subsidizing unwarranted capital projects.⁸

In many states, a school district enrolling 2,000 pupils or a high school with fewer than 900 pupils is small. In Vermont, however, these would be among the largest in the state.

In other words, substantial cost savings can be achieved by consolidating districts as small as 300 pupils into districts with around 1,500 pupils. Smaller cost reductions are achieved for consolidations above those levels, but at a decreasing rate. Again, the

⁷ Lee, V. E., & Smith, J. B. (1997). High school size: Which works best and for whom?. *Educational Evaluation and Policy Analysis*, 19(3), 205-227.

⁸ Duncombe, W., & Yinger, J. (2007). Does school district consolidation cut costs?. *Education Finance & Policy*, 2(4), 341-375.

authors are referring to consolidations of very small districts, smaller than exist in many states, but dominant across the Vermont landscape. Much of the elevated cost of very small districts in other states is not in centralized and overhead costs. In Vermont, however, there may be more savings to be found here due to the complexity of the governance structures present across the state and the sheer number of districts requiring administration. Duncombe and Yinger's (2007) work

Certainly there is more to school size than efficiently producing test score gains - including access to programs, services, and curricular options.

explains that elevated costs in many very small districts are linked to the staffing ratios at the classroom level, such that cost savings are maximized when individual schools can be reorganized and consolidated as well as overhead costs. In many states, combining schools themselves (different from consolidating districts) comes with up front capital investment, which may or may not be the case in Vermont due to the persistent declines in enrollment leaving many school buildings sparsely populated across certain areas. On balance, any capital investment should be approached strategically

The previous studies speak primarily to issues of maximizing achievement gains on test scores and/or minimizing the cost of producing those gains. Certainly there is more to school size than efficiently producing test score gains - including access to programs, services, and curricular options. A

multitude of studies find that curricular options - in particular advanced course offerings and electives - are severely curtailed in very small high schools.⁹ In this case, the boundary of small tends to be set around 400 pupils at the high school level. High schools enrolling far fewer than 400 pupils tend to have fewer elective options

⁹ Brent, B. O., Roellke, C. F., & Monk, D. H. (1997). Understanding teacher resource allocation in New York state secondary schools: A case study approach. *Journal of Education Finance*, 207-233.

Baker, B. D. (2003). State policy influences on the internal allocation of school district resources: Evidence from the common core of data. *Journal of Education Finance*, 1-24.

Monk, D. H., Brent, B. O., & Roellke, C. F. (1997). Teacher resource use within New York state secondary schools. *Paul D. Planchon, Associate Commissioner*, 37.

Baker, B. D. (2001). Measuring the outcomes of state policies for gifted education: An equity analysis of Texas school districts. *Gifted Child Quarterly*, 45(1), 4-15.

Monk, D. H., & Haller, E. J. (1993). Predictors of high school academic course offerings: The role of school size. *American Educational Research Journal*, 30(1), 3-21.

Haller, E. J., Monk, D. H., Bear, A. S., Griffith, J., & Moss, P. (1990). School size and program comprehensiveness: Evidence from high school and beyond. *Educational evaluation and policy analysis*, 12(2), 109-120.

Monk, D. H. (1987). Secondary school size and curriculum comprehensiveness. *Economics of Education Review*, 6(2), 137-150.

and fewer advanced course offerings available. Notably, in very large high schools, more options may be available, but participation rates in those options may decline. A large body of research indicates the importance of access to and participation in these opportunities.

The opportunity to participate in key milestone courses such as algebra or geometry as well as more advanced and enriched academic coursework is associated with college acceptance, matriculation, and ultimately personal financial success after college. For example, Rose and Betts (2004) note, “Our results suggest that a curriculum that includes algebra and geometry is systematically related to higher earnings for graduates a decade after graduation.”¹⁰ Betts and Rose (2004) further explain that: “...the math curriculum can explain nearly one-quarter of the gap between students with parental income in the lowest and middle groups. This latter finding is important because it suggests a tool—namely the math curriculum—for increasing the degree of equity in students’ earnings opportunities later in life.”¹¹ Others point to the importance of early access to algebra specifically (as a pathway to higher mathematical attainment by graduation) in order to put students on a trajectory to succeed in non-remedial, credit bearing math courses during their freshman and sophomore years in college.¹²

Access to non-academic offerings also matters. Killgore (2009) explains the importance of high school students’ academic and non-academic qualifications for acceptance to selective colleges. With regard to non-academic merit, Killgore (2009) explains “Nonacademic merit becomes important to admissions officers at elite colleges because it offers them additional criteria to distinguish the best from among their large pool of applicants who are highly qualified in academic terms.”¹³ Again, participation rates in non-academic alternatives, like advanced academic offerings may decline in large high schools, where large means enrollment greater than 900. But these opportunities tend to be generally less available in high schools enrolling fewer than 400 pupils, and many Vermont high schools fall well below this threshold.

¹⁰ Heather Rose and Julian R. Betts, “The Effect of High School Courses on Earnings,” *Review of Economics and Statistics* 86, no. 2 (March, 2004): 497-513, p. 510.

¹¹ Heather Rose and Julian R. Betts, “The Effect of High School Courses on Earnings,” *Review of Economics and Statistics* 86, no. 2 (March, 2004): 497-513, p. 510.

¹² Adam Gamoran and Eileen C Hannigan, “Algebra for Everyone? Benefits of College-Preparatory Mathematics for Students with Diverse Abilities in Early Secondary School,” *Educational Evaluation and Policy Analysis* 22, no. 3 (Fall, 2000): 241-254.

Mark C. Long, Patrice Iatarola, and Dylan Conger, “Explaining Gaps in Readiness for College-Level Math: The Role of High School Courses” *Education Finance and Policy* 4, no. 1 (Winter 2009): 1-33.

¹³ Leslie Killgore, “Merit and Competition in Selective College Admissions,” *The Review of Higher Education* 32, no. 4 (Summer 2009): 469-488, p. 471.

Vermont in Regional Context

These first few figures compare Vermont to other New England states in terms of a) adjusted state and local revenue per pupil, corrected for economies of scale related costs, child poverty rates and regional labor cost, and b) total effort put toward financing elementary and secondary education. These figures are based on data from the forthcoming 2015 edition of *Is School Funding Fair?*¹⁴ They are included here to illustrate how Vermont's per pupil spending and effort of supporting that spending compare to other nearby states, even after correcting for the small size and sparse population of Vermont districts, as explained in the funding fairness report technical appendix.¹⁵

Vermont's share of economic capacity spent on public schools is highest in the nation.

Figure 1 shows that through 2009, Vermont had been the highest in state and local revenue per pupil among New England states. Connecticut surpasses Vermont in 2011, but Vermont remains high. More strikingly, however, Vermont remains much higher than other New England states (and all states nationally) on the report's measure of educational effort. That is, Vermont spends the largest share of its fiscal capacity, among states, on supporting elementary and secondary schooling. All states declined on this measure during the recent recession.¹⁶

¹⁴ Baker, B. D., Sciarra, D. G., & Farrie, D. (2010). *Is School Funding Fair? A National Report Card*. Education Law Center.

¹⁵ http://schoolfundingfairness.org/SFF_Data_and_Methods.pdf

¹⁶ Baker, B. D. (2014). Evaluating the recession's impact on state school finance systems. *Education policy analysis archives*, 22, 91.

Figure 1

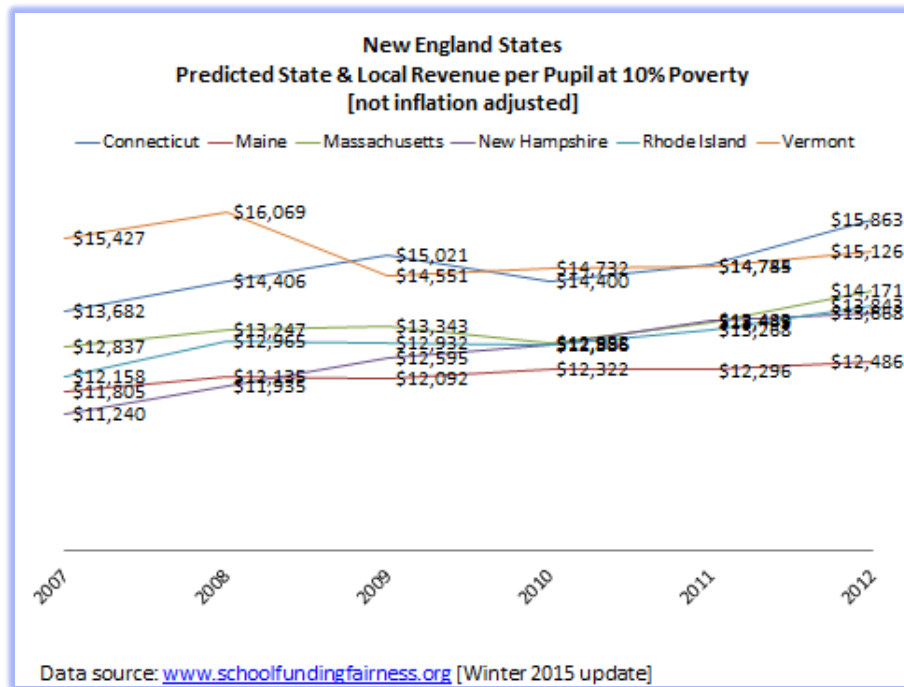
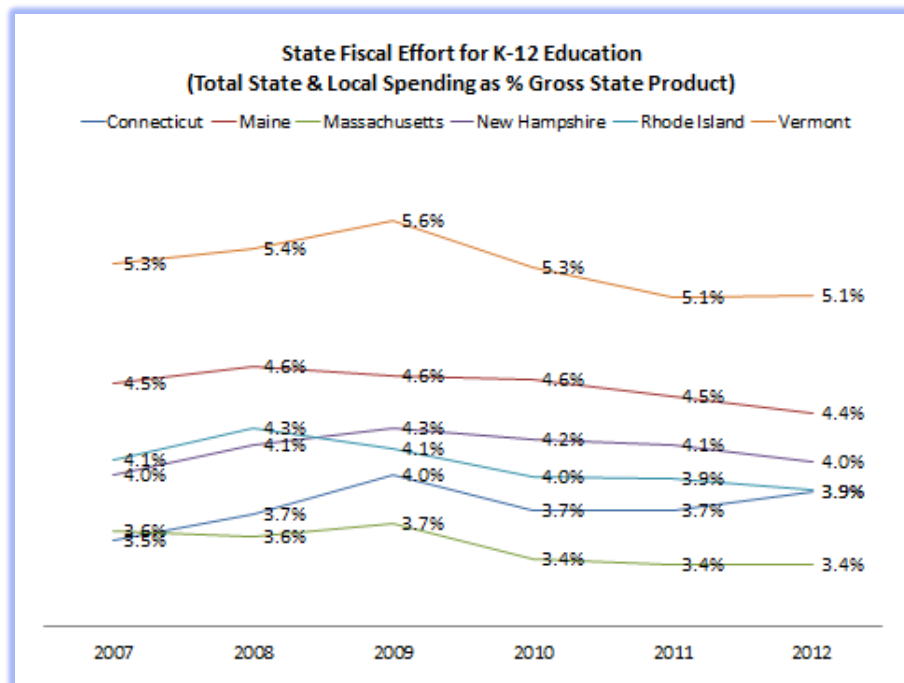


Figure 2



District and School Size in Vermont

Figure 3 shows the long term trends in numbers of schools by grade level in Vermont using the National Center for Education Statistics Public School Universe Survey data. Over time, numbers of elementary schools have declined, from over 180 to around 150. But while elementary schools have declined in numbers, possibly being combined into elementary-middle schools in some cases (note the small uptick in this category from 1997-2002 before subsequent decline), numbers of high schools remain unchanged.

Figure 3

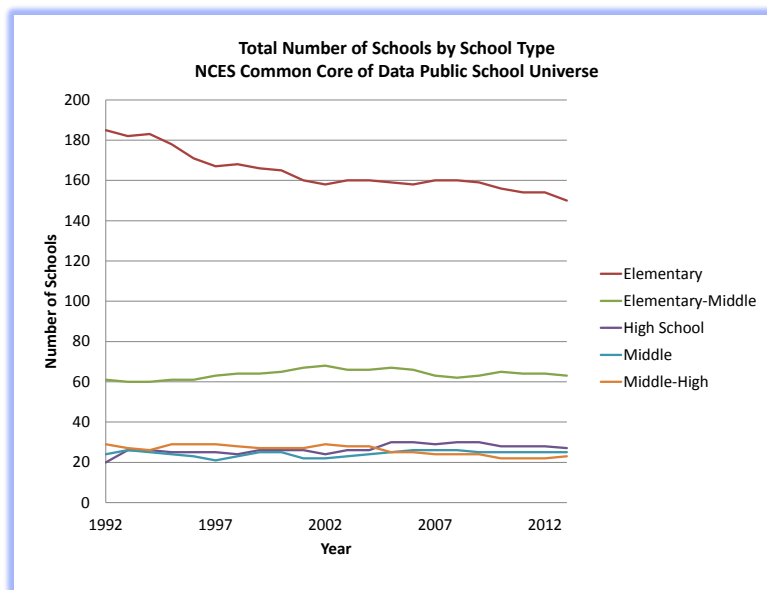


Figure 4

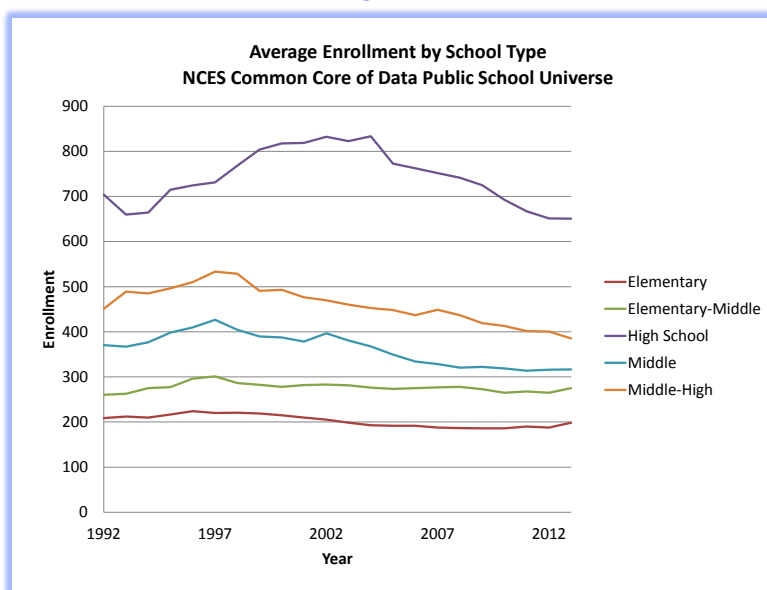


Figure 4 shows the average enrollments by school grade range over time. High school average enrollments reached their (most recent) maximum in the early 2000s, at just over 800 pupils, declining to an average of around 650 by 2013. That is, the average enrollment size remains within the range for effective, efficient high schools large enough to offer a diverse array of courses and extracurricular opportunities.

District Revenues and Enrollment Size

Figure 5 shows the relationship between district, state, and local revenue per pupil and enrollment size, by district type, using data from the U.S. Census Fiscal Survey of local governments for 2011-12. One can see in the figure that there exist a handful of very small school districts requiring substantially greater per pupil revenue than their larger counterparts. Less like patterns in some other states, there also exist many very small schools that have much lower revenue per pupil. Such low revenue, and spending at such small scale would typically require sacrificing substantially course offerings and specialized staffing, as well as combining grade levels in elementary schools.

Figure 5

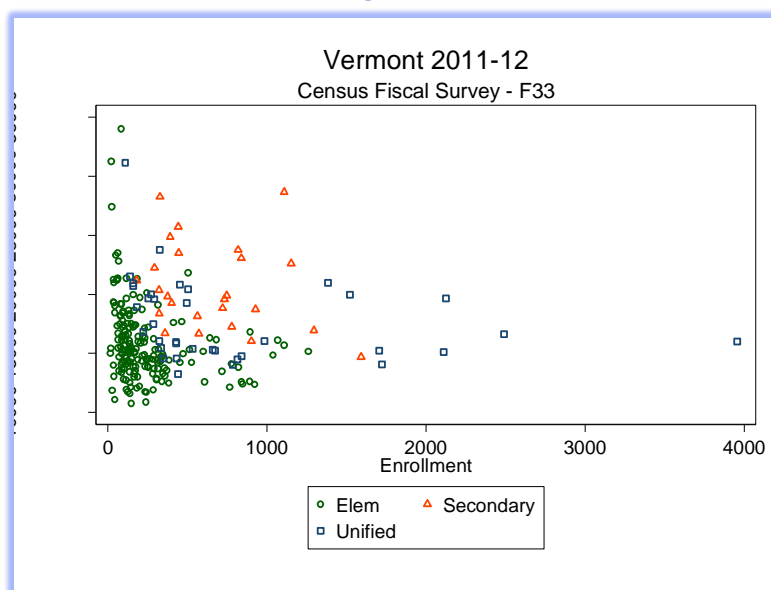
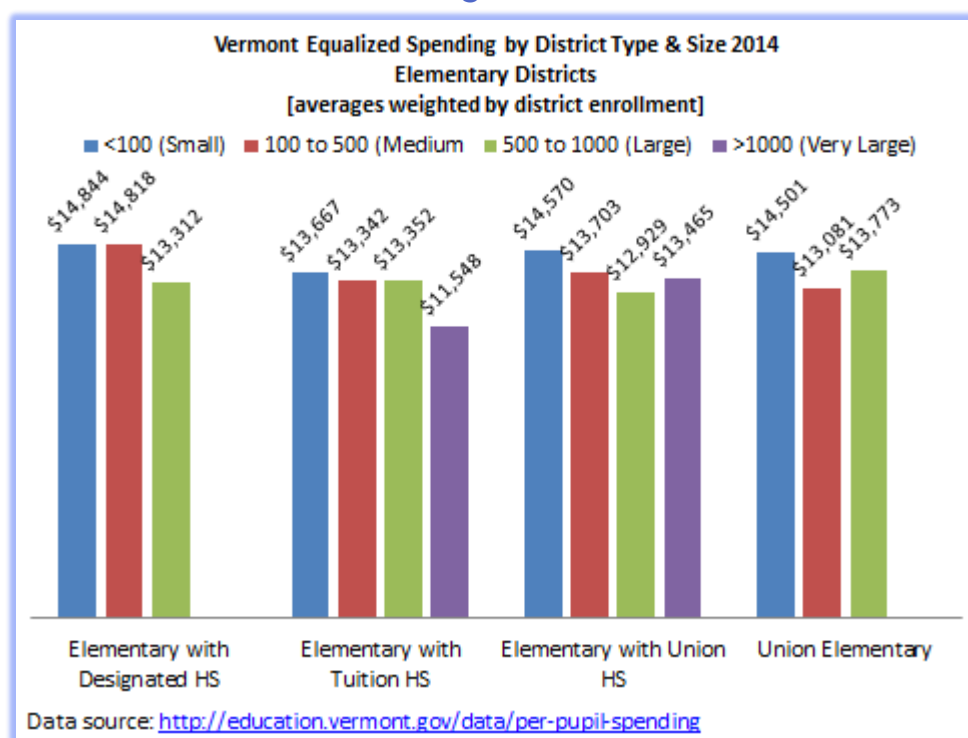


Figure 6 uses data from the Vermont Agency of Education to compare per pupil spending levels by district classifications used by the state. Within elementary district types, smaller districts tend to be spending, on average, weighted by enrollment, about \$1,000 per pupil more. These differentials are somewhat smaller than found in other studies of economies of scale in education,¹⁷ and may indicate that program breadth and depth and related school services are more constrained. A second issue is that in Vermont, these comparisons are being made between very, very small districts, and merely small ones. As such, per pupil costs for all districts and schools are somewhat elevated. Vermont is among the few states with very few children attending fully organized (k-12) scale efficient (i.e. >2,000 pupils) districts.

¹⁷ Baker, B. D. (2005). The emerging shape of educational adequacy: From theoretical assumptions to empirical evidence. *Journal of Education Finance*, 259-287.

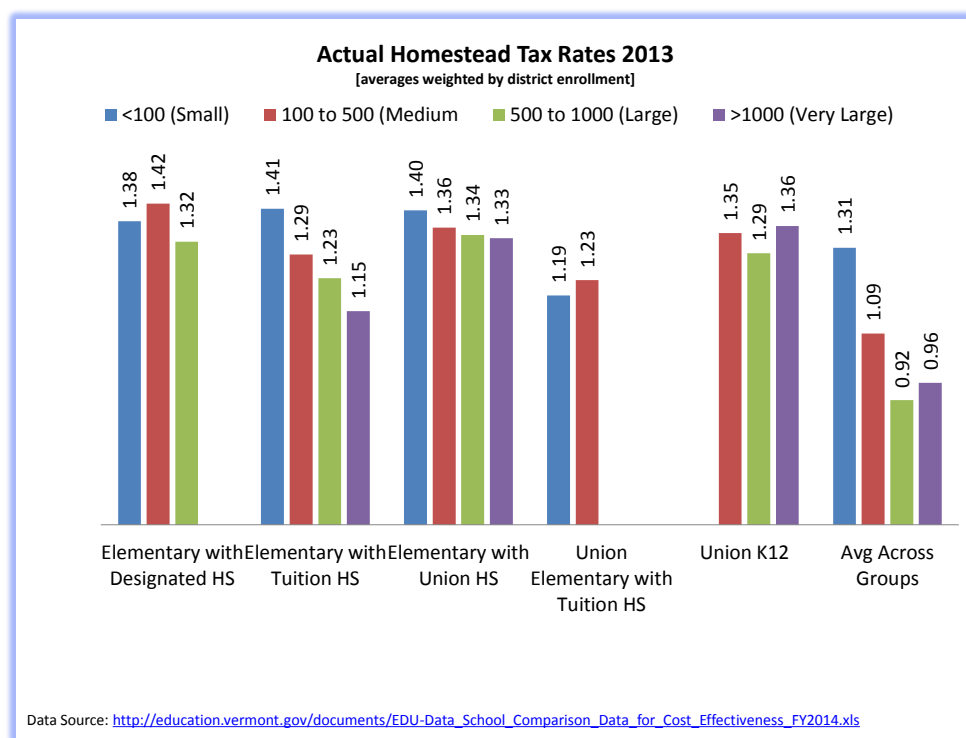
Figure 6



The smaller than usual spending differentials for very small districts may in part be a function of lacking local fiscal capacity to support sufficient breadth and depth of programs and services in those schools. Figure 7 summarizes the actual homestead tax rates in these districts, revealing that the higher spending is coming with a higher homestead tax. Among elementary districts that tuition their secondary students, the rate is much higher for small than for very large (small in many other states) districts. The case is similar for elementary districts sending to a unified high school. This may also be an effect of the nature of Vermont's state-wide taxation system, whereby the excess spending threshold is more often met by such small districts due to their higher cost of operation vis-à-vis student enrollment.

Very small Vermont school districts face both elevated costs & elevated tax rates.

Figure 7



School Level Staffing Expenditure and Enrollments

A major driver of elevated annual operating costs in small school districts is the staffing ratios that must be maintained in order to provide a basic set of educational programs. Small districts with small schools require very low pupil to staff ratios and thus have much higher staffing costs per pupil. Larger districts with small schools have marginally lower per pupil costs.

However, when within-district school size causes inefficiency, local boards of education have authority, albeit constrained by local politics, to reorganize attendance zones to more efficiently distribute students - optimizing school enrollments. In Vermont, many very small schools are themselves, stand-alone very small districts, placing the burden of reorganization on state policymakers, with more limited tools and more complicated political calculus. But the organizational efficiency task remains similar.

Figure 8 shows the relationship between school level total staffing salary expense per pupil and school enrollments for Vermont schools serving elementary grades. Figure 9 shows the same for schools serving secondary grades. Vertical red lines identify optimal size ranges based on findings of studies mentioned at the outset

of this brief. Clearly, there are many lower grade schools below the “optimal” size range, and among them, a handful of relatively high staffing expense schools.

Figure 8

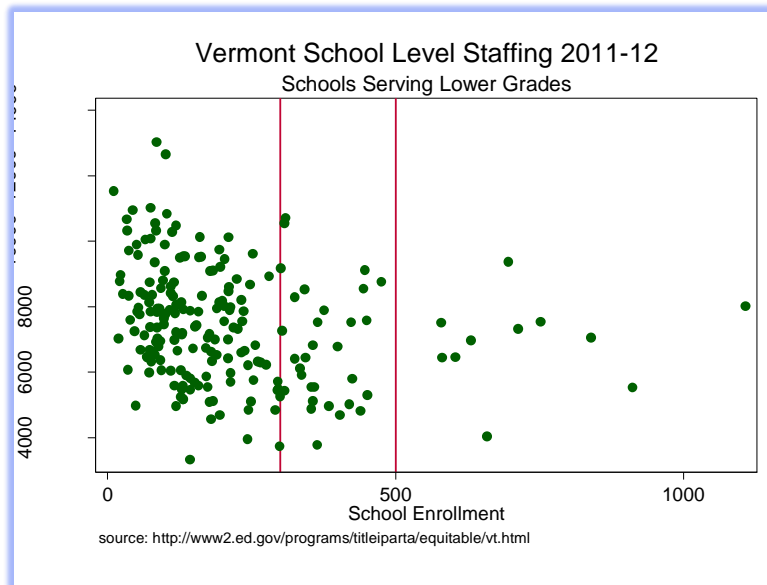
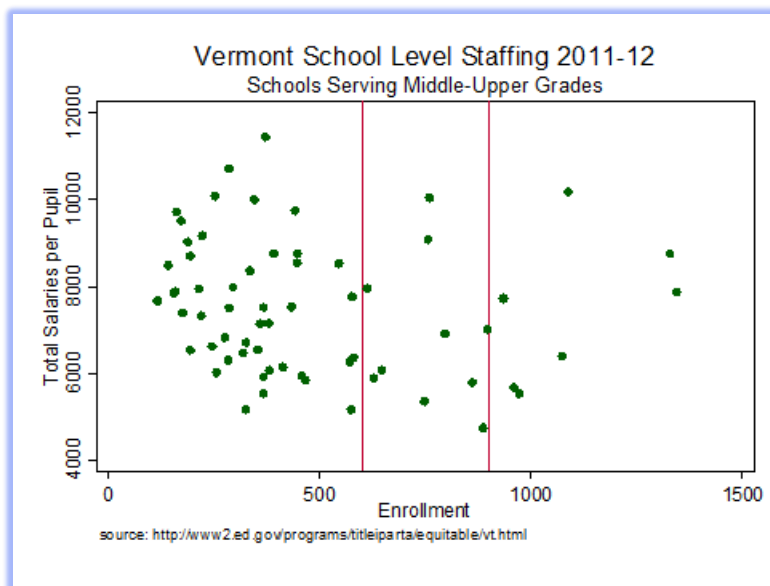


Figure 9 shows per pupil staffing expenses of schools serving secondary grades. Similarly, many of these schools fall well below the “optimal” ranges discussed previously and some of those operate at relatively high staffing cost per pupil.

Figure 9

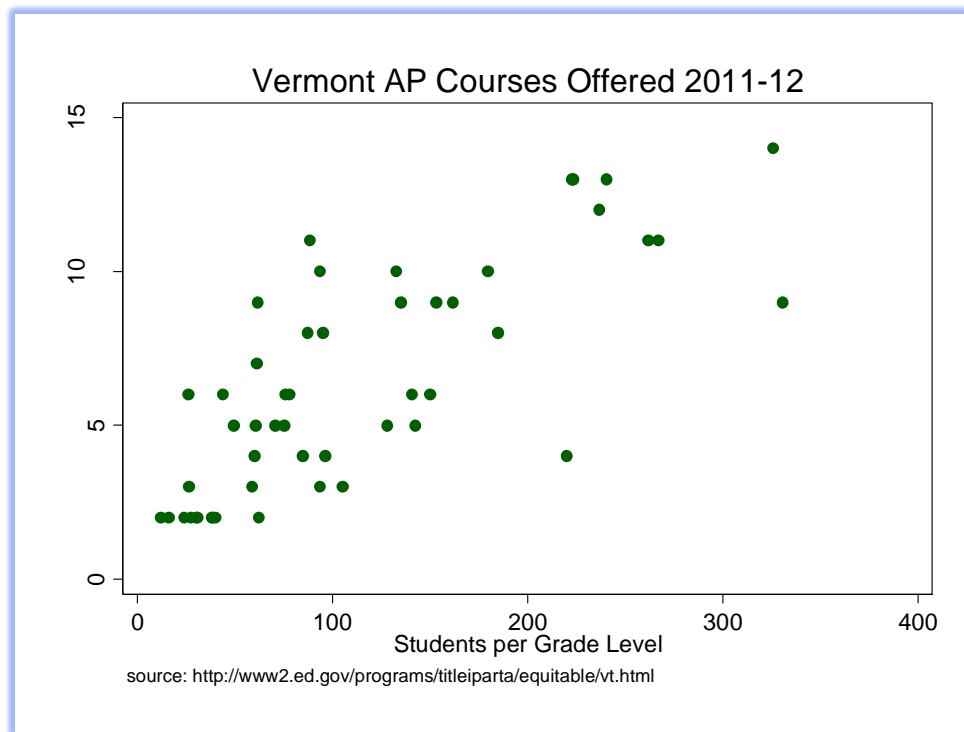


Curricular Options in Small High Schools

The recently released (December 2014) U.S. Department of Education Office of Civil Rights data collection includes numerous measures of course offerings, athletic offerings and participation rates for schools across the country, including those in Vermont. Recognizing the limitations of this data set, we present here only one snapshot of data on advanced course offerings with respect to high school size. Figure 10 presents the numbers of Advanced Placement courses offered in Vermont high schools with respect to the average enrollment per grade level. Numbers of AP offerings increase almost linearly with average enrollments per grade level, but for two lower outliers among larger schools. Only Vermont's largest high schools have enough students enrolled that participation rates might decrease appreciably despite large numbers of offerings. In very small high schools, where few or no AP courses even exist, there can be no participation, or participation may be limited to a single course option. Data appear similar for athletics opportunities, with no significant declining participation rates in the largest high schools (see Appendix A).

More exploration of these data is needed.

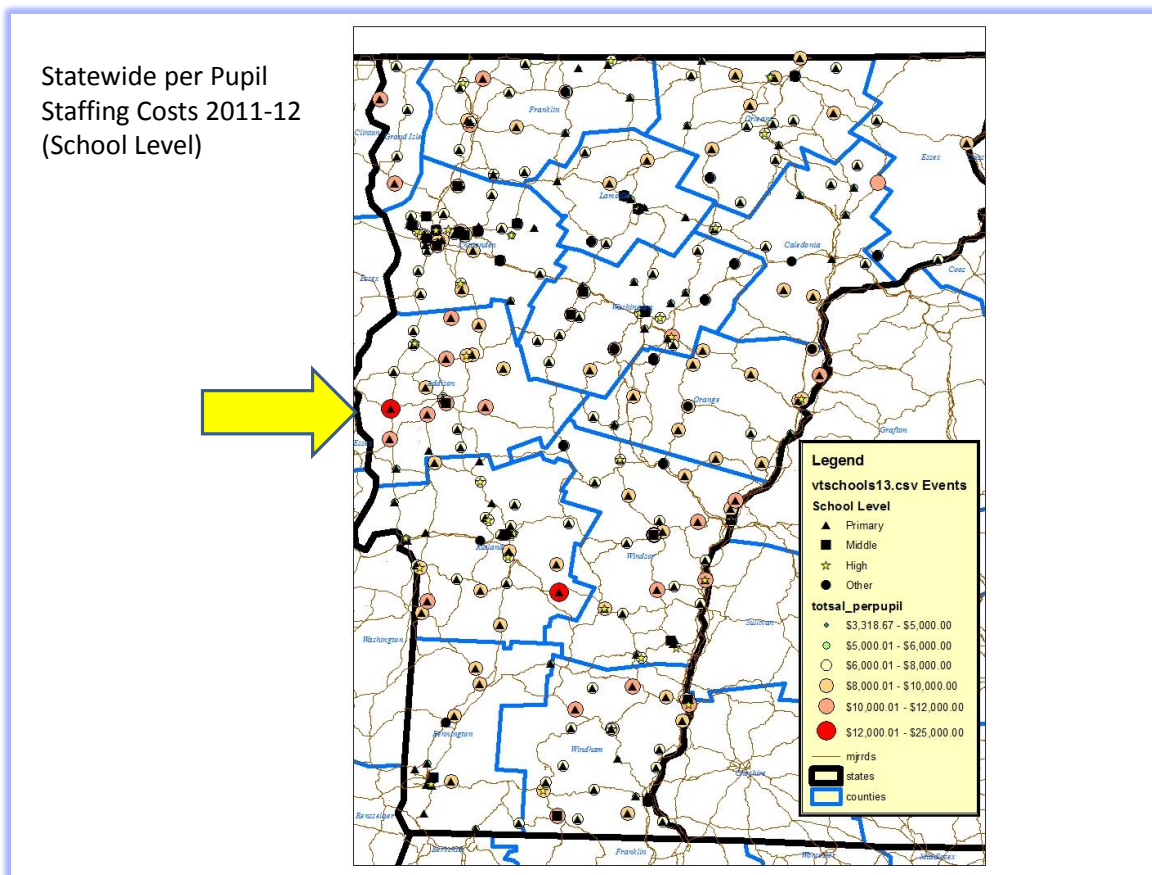
Figure 10



Consolidation Options for Consideration

As noted at the outset of this brief, consolidation becomes most relevant where districts or schools are very small and might be feasibly combined. Consolidation savings are produced by the merging of individual districts or schools, but more savings can often be found with school consolidation than by shared administrative overhead services alone. Certainly, for some Vermont school districts geography poses constraints on student bus travel, especially in the winter months. We focus in this section on two specific areas of the state where these constraints are less significant. Figure 11 presents a statewide view of data on staffing costs per pupil, with markers indicating grade levels of schools. Major roads are also indicated.

Figure 11



The yellow arrow in Figure 11 points toward the very small and relatively high expense elementary districts of Addison County. These districts tend to be less than 10 miles from one another, center to center, are placed along relatively major state highways with few significant geographic barriers between them. The sizes and red coloring of the circles in this zone indicate that these are some of the highest per pupil staffing cost schools in the state. Immediately to the south is another zone

worth exploring, but for different reasons. Western Rutland County is home to numerous tiny high schools, again, often less than 10 miles from center to center.

Elementary/Middle Schools of Western Addison County

Small schools in Addison County remain significantly dependent on the state's small schools subsidy.¹⁸ But continuing to subsidize schools of such small size which are geographically feasible to consolidate does not make fiscal sense. Figure 12 shows the per pupil staffing expenses of the small schools in the county. Indeed, there are some very small schools that appear to be operating at relatively low expense, including Orwell and Whiting Village, but these schools are unlikely to be able to offer rich programs at such small scale and low spending. Other small schools spend far more per pupil including Bridport, Ripton and Shoreham, among which, only Ripton sits east of Route 7.

Figure 12

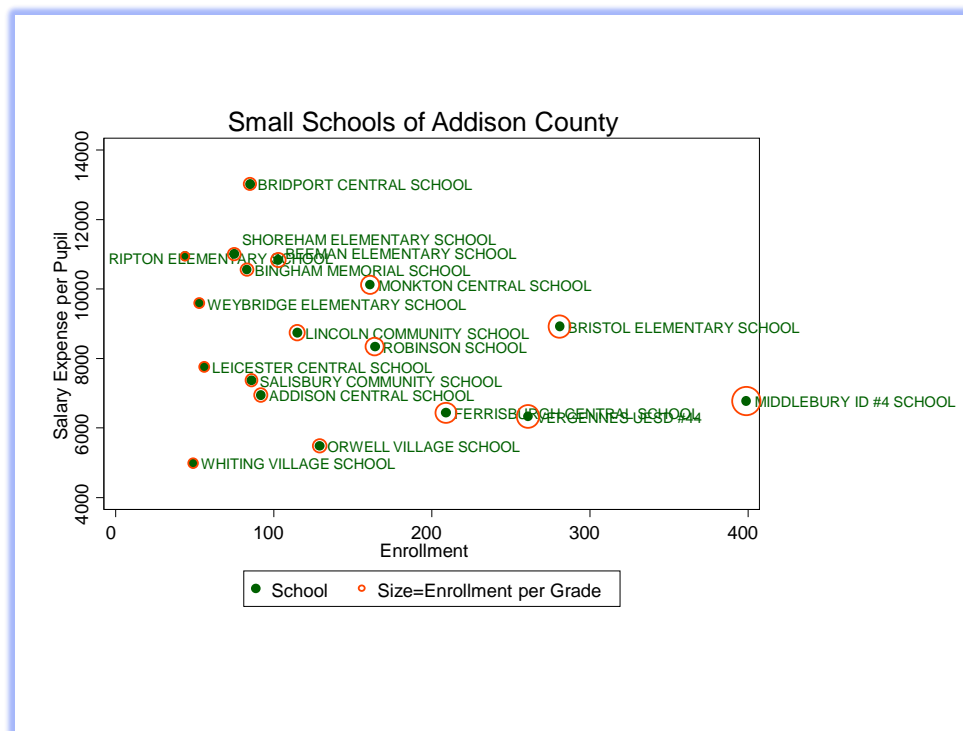


Figure 13 maps school sizes by location in Addison County and Figure 14 maps per pupil staffing costs by location. These figures make clear that some consideration should be given to potential reorganization and consolidation of districts along and around Route 22. Indeed, new construction may be a necessary short run cost, but combining these districts and or schools, each enrolling fewer than 100 pupils, would

¹⁸<http://addisonindependent.com/node/28184>

improve long run operational efficiency substantially and increase programming options for all in the new attendance zone.

Figure 13

Addison County School Enrollment Sizes 2011-12

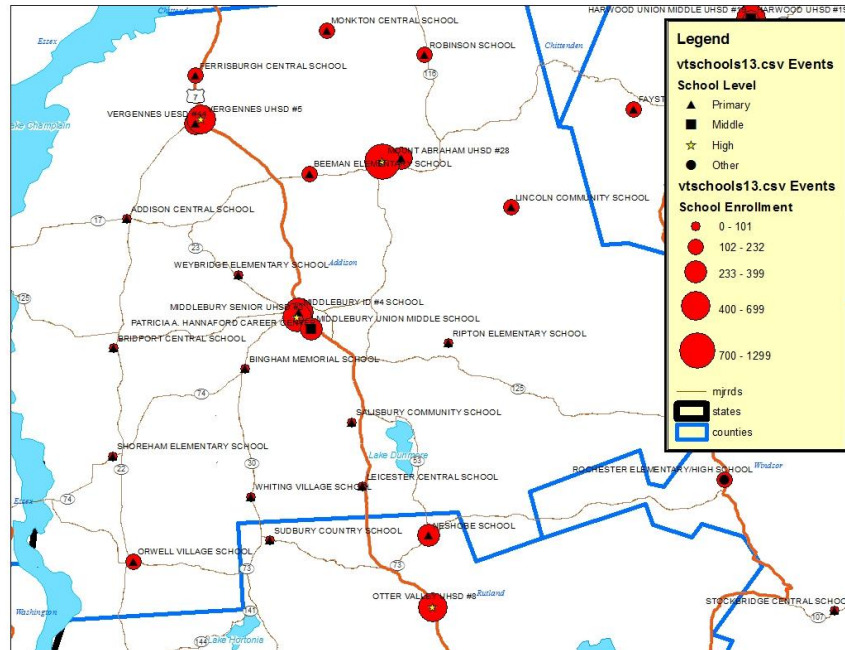
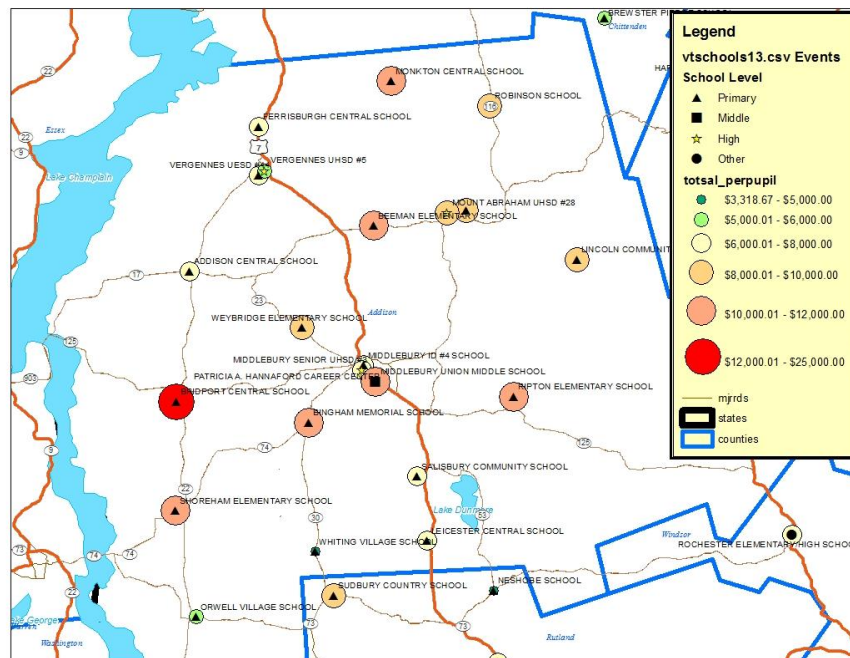


Figure 14

Addison County School Staffing Costs per Pupil 2011-12



High Schools of Western Rutland County

Immediately to the south of the zone discussed above lies a cluster of small high schools. The geography is similar, relatively flat, and passable all seasons by Vermont standards, including a major east-west highway, unlike most other parts of the state. Figure 15 shows per pupil staffing expenses and enrollment sizes for the schools of interest. Proctor and Poultney high schools lie at opposite ends of this zone, but are relatively close to other small districts.

As one option, these districts might all be feasibly consolidated into a single Western Rutland County High School district. Alternatively, they might be clustered into a few schools, with one more efficient school near West Rutland and another near Fair Haven/Castleton. The first option, consolidating all schools would possibly require more up front expense, like constructing a new high school along Route 4 between Castleton and West Rutland, for example. But this option might present the greatest long run cost savings coupled with expansion of educational options.

Figure 15

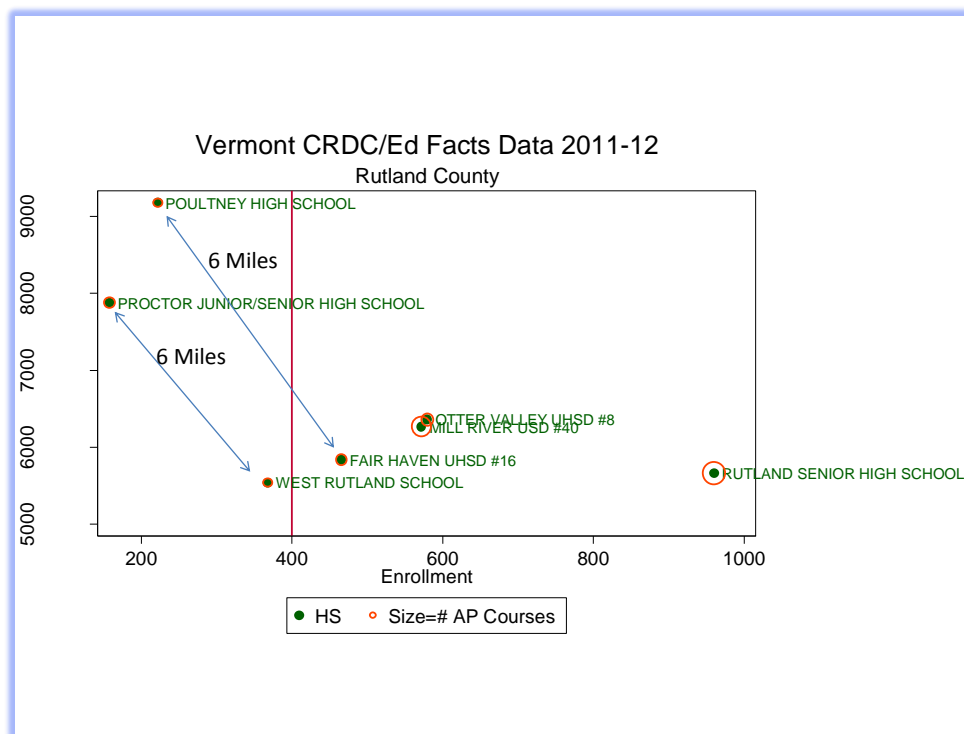


Figure 16 and Figure 17 show the locations of the schools, their enrollment sizes, and their current staffing expenses per pupil. In this case, only two of the schools, Proctor and Poultney operate at much higher staffing expense per pupil than the others. The potentially bigger issue among these schools is the depth and breadth of curriculum they are able to offer.

Figure 16

Rutland County School Enrollment Sizes 2011-12

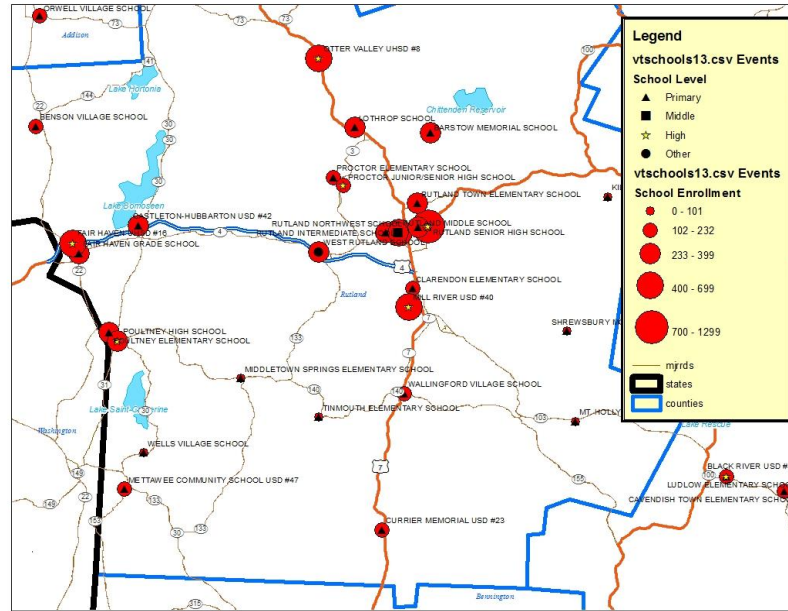
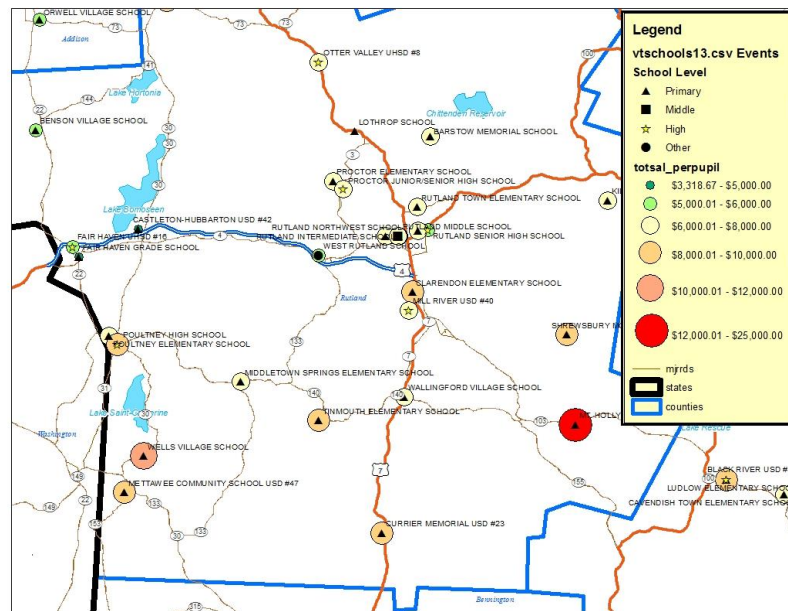


Figure 17

Rutland County School Staffing Costs per Pupil 2011-12



Conclusions & Policy Recommendations

This policy brief presents a preliminary, cursory overview and analysis of school size and consolidation issues for consideration in Vermont. Clearly, much more detailed quantitative and qualitative analyses should follow. Among other things, the state should conduct a thorough audit of the staffing, programs, and course offerings available to students across small elementary and secondary schools. The state should explore other possible zones, beyond those mentioned herein, for potential district and or school consolidation strategies, and the state should more thoroughly evaluate demographic trends so as to make appropriate capital investments for the future. Population projections should be carefully considered, especially given Vermont's aging population and low birth-rates at large. The role of districts and schools in Vermont's communities should be carefully revisited so as to determine the most efficient and effective means of supporting both in sustainable ways.

In contrast with recommendations from the graduate student authors of the Penn State report, consolidation options should not be taken off the table in Vermont, and the state should scrutinize small school subsidies and spending cap exemptions which reduce incentives to more efficiently organize districts and or schools. The best empirical literature does suggest that consolidation of very small districts and schools as exist in Vermont can lead to long run cost savings as well as improve equity in access to rich curricular and co-curricular opportunities. Further, district reorganization in the cases mentioned herein may lead to greater property tax equity.

To summarize:

1. Vermont's very small school districts experience a combination of:
 - a. higher spending than both like and neighboring states;
 - b. higher taxes than like and neighboring states;
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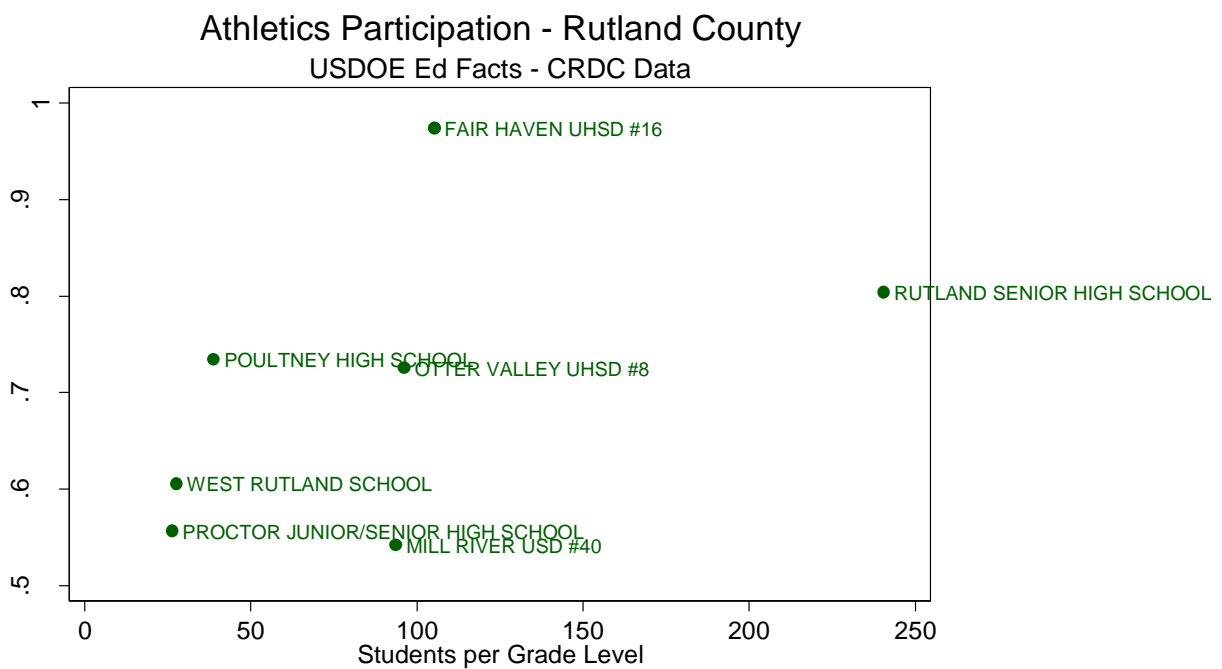
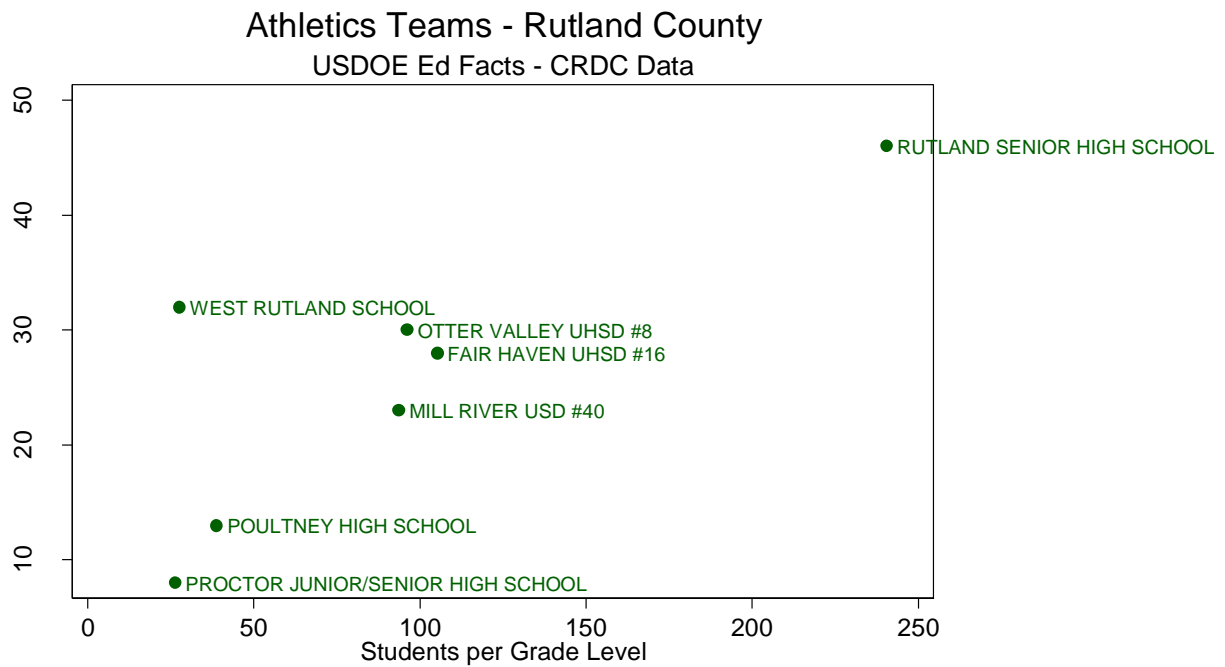
Across states, Vermont has among the smallest shares of children attending unified K-12 school districts with enrollments of at least 2,000 pupils. But Vermont, with total enrollment similar to that of Wyoming, is geographically much smaller than other states that have similar shares of children attending scale efficient unified school districts. Further, Vermont remains consistently among the highest spending

states in the nation when it comes to elementary and secondary education, and spends a greater share of its economic capacity on schools than any other state.

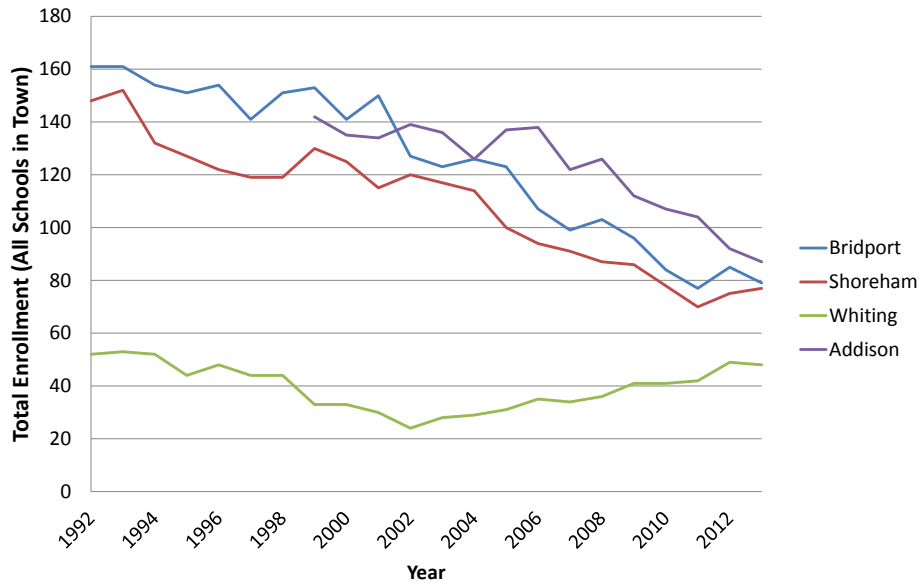
Connecting the literature on district consolidation, education-related costs, and school size to Vermont requires defining the size categories in evidence. Many schools and districts in Vermont are not merely small by national and international standards, but tiny and possibly unsustainably so. Vermont as a state puts up the highest funding effort of any in the country. It is becoming increasingly unsustainable for the state to continue subsidizing inefficiently small districts and or schools, especially those geographically feasible to consolidate, as evidenced by recent public outcry regarding property tax burden.

If the state wishes to phase out subsidies like the Small Schools Grant, the state should consider how to assist these districts in financing a capital plan for their merger, if one is required. Further, given the state-wide nature of Vermont's education financing system, conditions in many of these small districts contribute heavily to the climbing property taxes Vermont has seen. This is becoming increasingly problematic as it places the burden of funding those tiny districts on all taxpayers across the state by using exemptions to spending limits to sustain extremely small schools. Maintaining these schools essentially requires inefficient state expenditure, high taxation, and leads to inequitable programs and services available to children from neighboring tiny districts who attend schools within reasonable distance from one another.

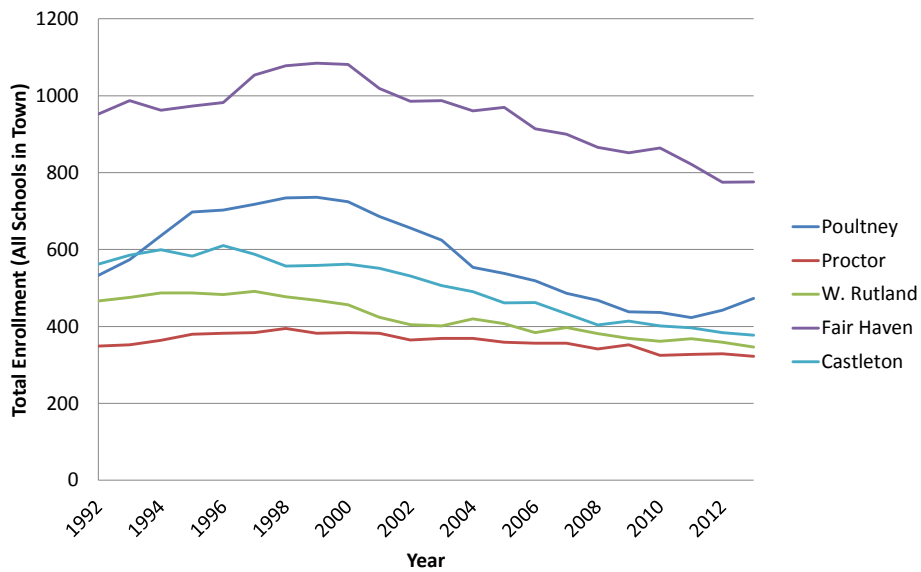
Appendix A. Additional Figures



**Total Enrollments by Town of Location of Schools
Western Addison County
NCES Common Core of Data – Public School Universe**



**Total Enrollments by Town of Location of Schools
Western Rutland County
NCES Common Core of Data – Public School Universe**



Bruce D. Baker



Bruce Baker is Professor in the Department of Educational Theory Policy and Administration in the Graduate School of Education at Rutgers, The State University of New Jersey. He is widely recognized as one of the leading scholars in the field of education finance, having published numerous peer reviewed journal articles on school finance, co-authoring a textbook on school finance (Financing Education Systems), and sitting on editorial boards of major journals in the field. He has also testified in state and federal courts on issues pertaining to school funding equity and adequacy and has consulted for numerous states and for the Organization for Economic Cooperation and Development on issues pertaining to the design of school finance systems.

Bruce Baker is a graduate of Rutland Senior High School, class of 1983, where he played varsity tennis for four years, participated in All State Band, Jazz Band and All New England Band on Alto Saxophone.



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