Cost-effective Schools for the 21st Century
Consolidation and Collaboration Revisited

RIPEC RIASC

Report Prepared by RIPEC and the
Rhode Island Association of School Committees

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I. Introduction

Public education is a linchpin for Rhode Island's economic future. Public investment in Rhode Island's school system is a link to economic development and opportunities. However, resources are finite. Therefore, it is essential that available public resources be used in an effective and efficient manner and taxpayers receive "value" for their investment.

RIPEC projects that in FY 2007, spending for public elementary and secondary education will reach $2.0 billion. As discussed in this report, there is a potential to reduce statewide education costs by approximately $83.0 to $100.0 million, or about 5.0 percent of total expenditures. These savings could be used by either providing property tax stabilization or reinvesting it in educational programs. In order to ensure both quality and affordable educational services, the direction must consider fewer districts and more shared services.

Spending for public elementary and secondary education is projected to reach $2.0 billion in FY 2007. There is a potential to reduce statewide education costs by approximately $83.0 to $100.0 million, or about 5.0 percent of total expenditures.

This conclusion is based on research that indicates that districts with at least 6,000 students, augmented with shared service agreements, might be the most cost effective without compromising student performance. In addition, as discussed in this report, economies of scale can be reached by combining administrative and professional positions. Furthermore, given the size and the urban character of Rhode Island, the State is in a better position to consolidate districts and services than geographically larger and more rural states.

Improving public school efficiency poses significant challenges for Rhode Island. School district consolidation has been perceived by some as a means to provide quality education in more efficient and economical ways. Various school reform bills, such as statewide purchasing for schools, a legislative commission on regionalizing schools on Aquidneck Island and a statewide health plan, are currently considered by State and local officials.

Any discussion of district consolidation or collaboration needs to be based on solid evidence on how each option would impact the economy and effectiveness of district operations. The Rhode Island Association of School Committees (RIASC) and RIPEC prepared the following report to provide decision-makers with information when considering issues of district regionalization, consolidation, and collaboration as they impact student performance, effectiveness, efficiencies, and accountability.

This report reviews the academic literature on the potential costs and benefits of consolidation, relates the findings to Rhode Island, and uses the framework of the 1992 report of the 21st Century Education Commission to update opportunities to improve education efficiency, and sets forth recommendations to enhance the effective delivery of education services through fewer districts and more shared services. The 21st Century Education Commission was the last comprehensive report that addressed school consolidation in Rhode Island.

In addition to this introduction, this report is divided into four sections:

- Section II - Summary of Findings
- Section III – Recommendations on Enhancing Efficiencies Through School District Consolidation or Collaboration
- Section IV - Literature Review
- Section V - National and Rhode Island Comparison

II. Summary of Findings

A. From Literature

- A review of the academic literature shows mixed results in answering the question if consolidation leads to cost efficiencies. Some studies suggest that school district consolidation substantially lowers operating costs, particularly when small districts are combined. Other studies question both the educational and cost saving benefits of school district consolidation;

- Some studies argue that moderation in district size may provide the most efficient combination and suggest that the "optimal" district size is around 6,000 students;

- In deciding whether or not to consolidate school districts, factors such as class size, administrative costs, transportation, and student performance must be considered; and

- Some studies argue for implementing shared services. Small districts can band together to create the purchasing power and economies of scale of medium-sized districts. Large districts can organize their individual schools into smaller clusters and still benefit by sharing services internally.

B. How Rhode Island Districts Compare

Districts by Enrollment Size

- Between 1992 and 2002, there was a shift to larger districts in the United States. Districts larger than 2,500 increased while those below 2,500 students declined between 1992 and 2002. In the United States, the largest increase was for districts with more than 25,000 students, which increased by 22.8 percent between 1992 and 2002. The trend to larger districts within the United States can also be seen be the overall decline in districts from 15,025 in fall 1992 to 14,465 in fall 2002, at a time when enrollment increased; and

- In fall 2002, 44.4 percent of Rhode Island's districts (16 of 36 districts) are between 2,500 and 4,999 students, compared to 14.1 percent of all districts within the United States.

Percent of Students in Districts

- Nationally one-third of students attend schools with enrollment in excess of 25,000, compared to 17.5 percent in the Ocean State;

- In fall 2002, 54.3 percent of Rhode Island public school students were enrolled in school districts with enrollment of 5,000 or more, compared to 67.5 percent for the United States; and

- Just over one-third (35.4 percent) of Rhode Island public school students attended schools with a total enrollment of 2,500 to 4,999. The comparable national figure was 15.1 percent.

Rhode Island Data

- Analysis of Rhode Island data does not indicate a trend between the size of school districts and per pupil spending;

- There does not appear to be an absolute relationship between the size of the district and the per pupil administrative costs; and

- The average student-teacher ratio for the top per pupil spending districts is 12.3:1, compared to 13.7:1 in the bottom spending group, but there is no obvious relationship between the size of the district and the student-teacher ratio.

III. Recommendations on Enhancing Efficiencies Through School District Consolidation or Collaboration

In this era of tight budgets and calls for results and accountability, schools need to identify means of enhancing efficiencies. Consolidation of districts and shared services are options to get more value from tax dollars used to educate students. However, there is not a guarantee that school districts will be self-motivated to pursue consolidation or shared service arrangements. Therefore, it is incumbent for the Rhode Island Department of Education and the Board of Regents to play a leadership role in encouraging such arrangements.

An evaluation of school district consolidation and economies must recognize that there is a system already in existence. Therefore, in projecting potential economic costs and benefits of consolidation options, attention must also be directed at existing conditions. Some of these include transportation systems, population densities and distribution, staffing patterns, salaries and benefits, and locations and utilization patterns of existing facilities. In addition, parents may value the existing system of neighborhood and community elementary schools and to best serve the educational needs of their children.

Table 1
Selected Expenditure Categories Potentially Impacted
By Consolidation or Shared Services
($ million)

Expenditures	Rational	FY 2003 Spending Level
Health Care Costs (1)	Statewide negotiation of health care	$150.0
Curriculum Development (2)	Reduce staff and regional efforts	$15.3
Special Education (2)	Eliminate duplicative delivery systems and programs, purchase services more cheaply	$362.0
Facility Utilization (2)	Centralize function, staff and adm. Savings, central purchase of fuel, bulk purchasing of supplies etc.	$125.1
Administration (2)	Administrative savings	$121.1
Transportation (2)	Lowering of fixed costs	$61.0
Total		**$834.4**
10% in savings would amount to		$83.4

Source:
(1) RIPEC estimate.
(2) In$ite

In weighting the advantages and disadvantages of consolidation, educational, political and financial matters should be considered. For example, enhanced program offerings and facilities could benefit from higher district enrollments. Political considerations will revolve around the issue of local control and the concerns of the smaller communities that they could lose their identities and neighborhood schools. Financial considerations should take into account the anticipated cost savings resulting from the elimination of duplicative services as well as start-up or transition expenses, as well as taxpayer affordability and the method of funding schools.

> To assure both quality and affordable educational services, the direction must be fewer districts and more shared services.

Table 1 shows selected expenditure categories that might be directly impacted by district consolidation or sharing services. These categories are based on the previously mentioned 1992 report of the 21st Century Education Commission. Together, these expenditures amounted to $833.4 million in FY 2003, approximately half of the total education expenditures of $1,659.2 million. Each 10 percent in savings of these categories would amount to $83.3 million. RIASC and RIPEC believe that these savings can be achieved by adopting an agenda that mandates shared services and encourages selected school district consolidations.

1. Address special education expenditures

Rhode Island has one of the highest percentages of pupils in special education in the Nation. In 2002, 20.0 percent of Rhode Island's students were attending special education classes compared to an average of 13.2 percent in the United States. All school districts in Rhode Island together spent $362.0 million on special education in FY 2003, accounting for 22.0 percent of all expenditures. School districts in Rhode Island spent between 12.8 percent and 29.6 percent of their school budget on special education in FY 2003.

As Table 1 shows, $362.0 million were related to special education expenditures in FY 2003. Collaboration in providing special education programs might be a way of minimizing duplicative service delivery and programs. For example, the Northern Rhode Island Collaborative provides a range of special education services such as direct services to behavior and severely handicapped students. Furthermore, the State should review its special education mandates as encouraged by Federal law.

2. Evaluate health care expenditures

The second largest category among these six selected categories is spending on health care. This category includes health care premiums for active and retired employees. These expenditures are calculated using data from the Mercer Report, published in 2003 by the Rhode Island Education Partnership. This report showed expenses for health care premiums at $100.0 million for 21 districts. Five more districts responded to a 2006 survey from RIASC, and expenses for the reminder of the districts were calculated by RIPEC. Based on these calculations approximately $150.0 million are related to health care expenditures.

As the Mercer Report points out, costs for health care premiums continue to increase at a rate faster than inflation and local property taxes. Furthermore, long-term financial

liability of health care benefits for retirees and their spouses will place an additional burden on local school districts.

Health care premiums are subject to negotiations. However, school districts should be encouraged to create the economies of scale that could result in real savings through larger employee pools through their associations, collaboratives, or other organizational arrangements. Considering the impact health care costs have on school districts, RIASC and RIPEC believe that it is important to compile data on how much the districts spend on health care for active and retired employees, and identify the costs and benefits of a cooperative way of providing health benefits to districts' employees.

3. Analyze Facility Utilization

Any plan for school regionalization cannot take place in a vacuum. It must first be cognizant of the access, distribution, and capacity of school facilities. One key factor to assess in determining the economic and fiscal feasibility of school district consolidation is facility utilization. For example, in the 1992 report *Educating ALL Our Children,* the Committee found that a practical factor to consider was the physical capacity of high schools to absorb additional students resulting in consolidation. This is even more important when considering the fact that school enrollment is projected to decline through the reminder of the decade.

Expenditures for facilities accounted for $125.1 million of expenditures. Expenditures include costs associated with running the day-to-day operations of facilities, including salaries and related employment costs and contracted services of custodians, janitors, and maintenance workers, as well as the costs of associated supplies, service contracts and furnishings. Potential savings for this category could come from centralizing functions, staff and administrative savings, central purchase of fuel, bulk purchasing of supplies.

To address proposals for school consolidation it is necessary to have data on school facility utilization. Therefore, RIPEC and RIASC recommend that a study be undertaken that prepares an inventory of facility conditions for all school districts, including the age of the buildings, population densities and distribution, energy efficiencies, staffing patterns, and locations and utilization pattern of existing facilities, as well as projected expenditures on maintenance.

4. Evaluate administrative costs

When school district administrative staffing levels in Rhode Island were compared to other New England states and the national average, based on data from the United States Department of Education's Digest of Education Statistics, the percentage of such staff to total staffing levels in Rhode Island is comparable to other states. In fact, the percentage of administrators in Rhode Island as a portion of the school workforce is slightly less than the national average.

Table 2
Number of School District Staff and Percentage of Total Staff, Fall 2002

State	Total Staff	School District Staff			
		Officials & Admin.		Adm. Support Staff	
		#	%	#	%
Connecticut	86,361	1,291	1.5%	1,768	2.0%
Maine	34,578	573	1.7%	768	2.2%
Massachusetts	143,944	765	0.5%	3,433	2.4%
New Hampshire	30,087	508	1.7%	677	2.3%
Rhode Island	18,774	199	1.1%	482	2.6%
Vermont	18,384	145	0.8%	343	1.9%
US	5,956,680	62,791	1.1%	175,202	2.9%

Source: US Dept of Education, Digest of Education Statistics 2004

For example, as shown in Table 2, 3.7 percent of Rhode Island school district staff was for administrators and administrative support staff. Among the New England states, the percentage of administrators and administrative support staff as a percentage of total staff ranged from a low of 2.7 percent in Vermont to a high of 4.0 percent in New Hampshire. The national average was 4.0 percent.

Administrative savings resulting from consolidation are based on the theory that there are benefits from economies of scale in providing selected services. There might be economies of scale benefits if administrative positions could be combined. For example, purchasing or IT functions could be combined to provide services for more than one district. Therefore, consolidation and/or sharing of these functions could result in savings.

Expenditures for administration in Rhode Island (Table 1), based on In$ite, accounted for $121.1 million of expenditures. This category includes salaries and related employment costs for principals and assistant principals, administrative support for principals and assistant principals; salaries and related employment costs for superintendents and the school board; office costs, salary and related employment costs of deputy superintendents, senior administrators, research staff, public relations and program evaluators; salaries and related employment costs of the legal department staff; as well as expenditures for business operations.

5. Review current law on regionalization

Current State law (GL 16-3-3.1) provides that the Department of Education mandate the creation of a regional school district planning board for the purpose of conducting a study of the feasibility of regionalization or other cooperative ventures if any of the following conditions are found to exist:

a. High school enrollments are below or are projected to be less than one hundred per grade;
b. Per pupil spending is 66 percent or less of the statewide average for three years;
c. The appropriating authority finds that the community does not have the fiscal and economic capacity to provide educational programs consistent with law and regulations, based on factors included but not limited to per pupil assessed valuation, and personal income; and

d. The Commissioner of elementary and secondary education determines that a school district does not have the capacity to comply with the Basic Education Program (BEP).

RIPEC and RIASC suggest that the Board of Regents should review these thresholds and determine their appropriateness, and also proactively administer current law.

6. Enhance partnerships by building on already existing cooperative ventures
Potential program benefits and cost efficiencies from collaborative ventures are evidenced by the variety of cooperative arrangements already underway in Rhode Island. Partnerships among local educational authorities and with state departments can be accomplished in a number of ways including voluntary joint-ventures, state-sponsored special-purpose regional agencies, consolidation of specific programs, school district purchasing services from other districts, and school district mergers into new single entities. Rhode Island's law (16-3.1-4) actually provides for financial incentives that the Board of Regents can grant to stimulate the formation of cooperative service arrangements. Furthermore, 16-7-40 provides for an increased school housing ratio for regional schools.

Shared services are usually based on common needs or operations that are shared by two or more units. The overall aim of shared services is to optimize the available resources for the benefit of the participants. It can be as simple as a single administrator overseeing a shared busing system or as complex as an office housing multiple school districts' human resources, IT, or purchasing staff and systems.

Cooperative service arrangements and collaboratives have a long history in Rhode Island and are supported by public laws that facilitate their operation. Several collaborative arrangements exist between school districts in areas such as the purchase of supplies and materials, curriculum development, provisions of adult education, and special education programs. However, the application has been ad hoc and not uniform throughout the State. Under State law (16-3.1-13), collaboratives are required to report their activities and programs to the Board of Regents and the General Assembly.

In Rhode Island, various collaboratives have been established by State law:

Regional Collaboratives:

- East Bay Collaborative – encompassing Barrington, Bristol, East Providence, Little Compton, Middletown, Newport, Portsmouth, Tiverton, and Warren (16-3.1-10). These districts share, coordinate and combine selected resources in ways that support the development of teachers, administrators and other professional personnel; provide administrative services that are more cost-effective, or higher quality, or both; and better serve the needs of selected special needs populations.

- West Bay Collaborative – encompassing West Warwick, Providence, Warwick, Coventry, Cranston, Scituate, Foster-Glocester regional school district, Foster, and Glocester (16-3.1-9.1). The Transition Academy provides instruction in functional academics, independent living, community mobility, self-advocacy, and the skills and behaviors required for seeking, obtaining, and maintaining employment. It also

created and maintains the Alternative Learning Program for at risk high school students.

- Southern Rhode Island Collaborative – encompassing Westerly, New Shoreham, Chariho, Narragansett, Jamestown, South Kingstown, North Kingstown, East Greenwich, and Exeter-West Greenwich regional school district (16-3.1-9). They created and maintain the Alternative Learning Program for at risk high school students, Regional Transition Center provides support for schools, communities and families as students with disabilities transition from school to adult life, created a Clinical Day Program for students with mental health issues, coordinated professional development (School to Career), and collaborative purchasing of school supplies.

- Northern Rhode Island Collaborative – encompassing Lincoln, Cumberland, Pawtucket, Central Falls, Woonsocket, Smithfield, North Smithfield, North Providence, Johnston, Foster, Glocester, Foster-Glocester and Burrillville (16-3.1-8). The Regional Alternative Program (RAP) services school aged children, grades K-12, who have been diagnosed as behaviorally disordered and/or seriously emotionally disturbed and whose needs can no longer be met in a traditional setting.

  The Northern Rhode Island Collaborative has many resources available to its members, including Mathematics, Science, Technology, Curriculum, Instruction, and Assessment. It has undertaken a number of special studies and projects designed to enhance the overall effectiveness of the Collaborative and its member districts.

Special Collaboratives

- Urban collaborative – encompassing Providence, Pawtucket, East Providence, Central Falls (16-3.1-11).

- Newport County Special Education Program – encompassing Middletown, Portsmouth, Tiverton, and Little Compton, providing special education programs and diagnostic services (GL 16-3.1-7).

- Rhode Island Association of School Committees Collaborative - Private non-profit empowered to aggregate school districts in the purchase of goods and services. Have initiated collaborative purchases for telecommunications services, insurance services and electric utility service (16-2-9.2).

In conclusion, in order to assure both quality and affordable educational services the direction must be fewer districts and more shared services. This will require that the Rhode Island Department of Education work closely with local communities to help collaboratives achieve their full potential and encourage district consolidation where appropriate.

IV. Literature Review

This section provides a review of the academic literature on what impact school consolidation or sharing services have on the costs of educating our children.

Consolidation

One hundred years ago school administrators and others concluded that school consolidation and regionalization, particularly in rural communities, provided a viable means to insure students access to quality programs and adequate facilities in a cost effective manner. In the 20th century, despite a 70 percent increase in the Nation's population, there was an 87 percent reduction in the number of school districts and the number of schools decreased by almost 70 percent.[i]

A significant number of research projects have been conducted in order to identify the economic and educational costs and benefits of school district consolidation. A comprehensive review of the literature summarized by the Texas Public Policy Foundation found mixed results regarding the benefits of consolidation.[ii]

The Texas Public Policy Foundation states that "with few exceptions, research describes the economic and educational advantages of large schools and districts as exaggerated… Not all research agrees that consolidation yields little benefit or adverse outcomes; there are several studies demonstrating positive results".[iii]

The contradictory findings were summarized in a review of the literature by Slate and Jones. Different studies of school size often produce different results because the effects of school size are complex and vary depending upon a number of factors. They simply represent differing aspects of a complex phenomenon.[iv]

Generally, the research shows that both very small and very large schools are negatively related to school quality. In both cases, the school will lack appropriate resources to serve students effectively. Small schools often have few resources because they tend to be in poor rural areas. Even with more resources, however, small schools are economically inefficient, so increased resources are likely to be squandered by the lack of economies of scale. Larger schools also tend to lack resources because they tend to be located in lower social class urban areas. Even with more resources, however, very large schools would still suffer from bureaucratic inefficiency which would more than squander any potential increase in the economies of scale.[v] Recognizing that these findings from research apply to schools, RIPEC and RIASC believe that they also can be applied to districts.

School district consolidation lowers operating costs.

In addressing the question, Does school consolidation cut costs?, Duncombe and Yinger evaluated the cost impact in New York school districts over the period 1985-1997 and found the following:

> "Holding student performance constant, we find evidence that school district consolidation substantially lowers operating costs, particularly when small districts are combined. The

> operating cost savings ranges from 22 percent for two 300-pupil districts to 8 percent for two 1,500-pupil districts. In contrast, consolidation lowers capital costs only for relatively small districts, and capital costs increase substantially when two 1,500-pupil districts come together. Overall, consolidation is likely to lower the costs of two 300-pupil districts by over 20 percent, to lower the costs of two 900-pupil districts by 7 to 9 percent, and to have little, if any, impact on the costs of two 1,500-pupil districts."[vi]

Eggers, et al. [vii] found that in deciding whether or not to consolidate school districts, factors such as class size (Fox noted that as long as increasing school size results in larger public teacher ratios, per pupil expenditures drop[viii]), administrative costs, transportation and student performance[ix] must be considered.

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In "Revisiting Economies of Size in American Education: Are We Any Closer to a Consensus," the authors take a close look at school consolidation and attempt to come to a consensus on how school and district size affect costs and student performance (Andrews et al., 1999). The extensive literature review of the existing studies on economies of scale in education is also included in this paper.

Andrews et al. examine 15 cost function studies and 12 production function studies to answer the following questions: do school size and school district size matter and is consolidation generally an effective policy?

Cost functions used in the research, for the most part, lead to a conclusion that there is an opportunity to save significant administrative and instructional costs when moving from a small district with 500 or less students to a larger district with 2,000-4,000 students (Andrews et al., 2002). Andrews et al. note that per student costs may also continue to decline until the enrollment reaches approximately 6,000 students. That is the point where economies of scale are exhausted (Andrews et al., 2002).[x]

Duncombe and Yinger surveyed more than three decades of research on school size and school consolidation. Their finding: the optimal number of students in a district for total cost effectiveness was 6,000. Costs begin to rise when districts grow larger than 6,000 students, and "sizeable" per-pupil funding discrepancies "may begin to emerge for districts above 15,000 students.[xi]

Shared Services

Eggers, et al. argue that there's another option, one that takes the advantages of smaller schools (such as higher scores in the SAT, or NEAP) and still have the economies of scale and buying power of a large district – by implementing shared services. "Small districts can band together to share everything from transportation services to building gymnasiums, creating the purchasing power and economies of scale of medium-sized districts. Large districts can organize their individual schools into smaller clusters and

still benefit by sharing services internally. Districts of all sizes can participate in agreements that improve the quality of their staff and internal capacities".[xii]
States that desire to promote the greater use of shared services in local school districts have several levers they can pull, including budget pressure, financial incentives and technical assistance. The states of New York and New Jersey, for example, both provide financial incentives for school districts to engage in shared services. One New Jersey incentive program, the Regional Efficiency Aid Program, provides tax credits directly to homeowners as a way to publicly reward school districts and municipalities for sharing services.

Sharing services creates the economies of scale and consistency of process and results that come with more centralized models. It also allows districts to maintain the benefits of decentralized control, allowing individual administrators to retain oversight of curriculum, education, and other aspects of non-shared processes. By sharing processes that are not mission-critical while still retaining local control of the most important aspects of education, shared services can bring the best of big and small.[xiii]

Shared services in education are becoming more commonplace.

Shared services in education are becoming more commonplace. In 2002, the two largest school districts in Texas, Houston and Dallas, entered into a five-year partnership to increase their buying power for health insurance and reduce duplicative administration by pooling their assets to produce employee health benefits. Similarly, two small districts in Wisconsin joined together to share a superintendent, splitting her $120,000 salary.[xiv]

Another example cited by the authors is the Greater Lawrence area of Massachusetts where ten school districts have banded together to provide special education services. Seven districts in Connecticut have a shared services arrangement for administrative services that includes the superintendent, director of instruction, federal programs, special education directors, and a legal agent. Two districts in Pennsylvania entered into an agreement to share the services of a food service director. Another opportunity is to share technology, ranging from shared systems and applications to shared helpdesk and onsite IT support. They state that "districts across the country have found creative ways to develop payroll and HR systems with municipalities and neighboring schools, to share the cost of software licensing and purchasing applications. Sarasota County in New York and the local school district created a shared services partnership for information technology that cut personnel and software costs for the school district.[xv]

There are also some examples of shared services in Rhode Island, such as the collaboratives in place that were mentioned previously. These collaboratives exist in areas such as the purchase of supplies and materials, curriculum development, provisions of adult education, and special education programs. However, as mentioned before, the application has been ad hoc and not uniform throughout the State. RIPEC and RIASC believe that the Rhode Island Department of Education and the Board of Regents should play a leadership role in further encouraging such arrangements.

V. National and Rhode Island Comparison

This section provides an overview of enrollment size for districts in the United States and Rhode Island, based on data from the United States Department of Education, Digest of Education Statistics 2004. It updates the data that was presented in the 1992 report *Educating ALL Our Children*. It also presents an analysis on student enrollment for Rhode Island districts in relation to per pupil expenditures, administrative expenditures, and student-teacher ratios. Data for Rhode Island districts are from the Rhode Island Department of Education's In$ite and InfoWorks.

National Comparison

As shown on Table 3, in fall 2002 (the most recent year available for a national comparison) almost half of Rhode Island's districts (16 of 36 districts) are between 2,500 and 4,999 students, compared to 13.3 percent of all districts within the United States. A review of the information presented on Table 3 and Table 4 also indicates that:

Table 3
Districts by Enrollment Size
Fall 1992 and 2002

	United States					Rhode Island				
	1992		2002		92-02	1992		2002		92-02
	#	%	#	%	Change	#	%	#	%	Change
25,000+	202	1.3%	248	1.7%	22.8%	-	0.0%	1	2.8%	NA
10,000 - 24,999	510	3.4%	587	4.1%	15.1%	2	5.6%	2	5.6%	0.0%
5,000 - 9,999	955	6.4%	1,062	7.3%	11.2%	5	13.9%	5	13.9%	0.0%
2,500 - 4,999	2002	13.3%	2,033	14.1%	1.5%	17	47.2%	16	44.4%	-5.9%
1,000 - 2,499	3530	23.5%	3,411	23.6%	-3.4%	7	19.4%	7	19.4%	0.0%
1 - 999	7463	49.7%	6,849	47.3%	-8.2%	5	13.9%	5	13.9%	0.0%
Size not reported	363	2.4%	275	1.9%	-24.2%	-	0.0%	0	0.0%	0.0%
Total	15,025	100.0%	14,465	100.0%	-3.7%	36	100.0%	36	100.0%	0.0%

Source: US Dept of Education, Digest of Education Statistics 2004, RI Dept. of Education, and RIPEC calculations.

- In the United States, there was a shift to larger districts between 1992 and 2002. Districts larger than 2,500 increased while those below 2,500 students declined between 1992 and 2002. In the United States, the largest increase was for districts with more than 25,000 students, which increased by 22.8 percent between 1992 and 2002. The trend to larger districts within the United States can also be seen be the overall decline in districts from 15,025 in fall 1992 to 14,465 in fall 2002, at a time when enrollment increased;

- Approximately one-third (33.1 percent) of the public school students in the United States attended classes in school systems with a total enrollment in excess of 25,000. Rhode Island has one district (Providence) in that category;

- In fall 2002, 54.3 percent of Rhode Island public school students were enrolled in school districts with enrollment of 5,000 or more, compared to 67.5 percent for the United States. It is interesting to note that Rhode Island has a significantly smaller portion of its students attending school systems with more than 5,000 students when compared to the nation as a whole;

- Just over one-third (35.4 percent) of Rhode Island public school students attended schools with a total enrollment of 2,500 to 4,999. The comparable national figure was 15.1 percent; and

- About 10.3 percent of elementary and secondary students in Rhode Island were enrolled in school districts with a total enrollment of less than 2,500, compared to 17.3 percent in the United States.

Table 4
Percent of Students in Districts
Fall 2002

	US %	RI %
25,000+	33.1%	17.5%
10,000 - 24,999	18.9%	14.9%
5,000 - 9,999	15.5%	21.9%
2,500 - 4,999	15.1%	35.4%
1,000 - 2,499	11.7%	8.9%
1 - 999	5.6%	1.4%
Size not reported	NA	0.0%
Total	100.0%	100.0%

Source: US Dept of Education, Digest of Education Statistics 2004, RI Dept. of Education, and RIPEC calculations.

There does not appear to be a disproportionate number of small districts (less than 2,500 students) in Rhode Island when compared to the nation as a whole. Given the urban character of the State, there does not exist the large number of rural schools that have been the traditional focus of school district consolidation nationally. As one can see on Table 4, more than one-third of Rhode Island's students attended schools in school systems with a total enrollment between 2,500 and 4,999 students. Most of these districts are considered sub urban.

In analyzing comparative data on size and the number of school districts in a state it should be noted that the averages are affected by population density, e.g., the number of rural districts. Therefore, while Rhode Island's profile is not inconsistent with the national profile, one should keep in mind that Rhode Island is one of the most urban states in the nation.

Rhode Island Data

To further illustrate the relationship between school district size and spending RIPEC analyzed enrollment and spending patterns for Rhode Island districts, based on RIDE's In$ite and InfoWorks.

In fall 2002, twelve Rhode Island school districts had an enrollment of less than 2,499 – ranging from 140 in New Shoreham to 2,444 in East Greenwich. Of these twelve districts, 75.0 percent are considered rural districts. The majority of school districts as well as enrollment are in districts containing between 2,500 and 4,999 students. Sixteen districts are in this category. More than half of these districts are considered suburban.

Table 5
Per Pupil Expenditures and Enrollment in Top and Bottom Quartiles Based on Per Pupil Spending, FY 2003

	Per Pupil Spending		Enrollment (1)	
	Amount	Rank	Total	Rank
Top Quartile (2)				
Narragansett	$13,923	1	1,736	30
Newport	13,476	2	2,915	21
Little Compton	12,990	3	343	35
Bristol-Warren	12,221	4	3,824	12
North Kingstown	12,106	5	4,647	9
Jamestown	11,972	6	568	33
Johnston	11,938	7	3,311	19
Central Falls	11,821	8	3,651	16
Warwick	11,680	9	12,085	2
Bottom Quartile				
Lincoln	$9,310	27	3,706	14
Tiverton	9,298	28	2,231	26
Barrington	9,261	29	3,356	18
Cranston	9,151	30	11,269	3
Portsmouth	9,092	31	2,995	20
North Smithfield	8,904	32	1,875	28
Scituate	8,878	33	1,782	29
Foster-Glocester	8,126	34	1,693	31
Cumberland	7,866	35	5,411	8
State Average/Total	$10,560		157,201	

(1) Total enrollment is based on fall enrollment

(2)Excludes New Shoreham with per pupil spending of $19,658.

Source: RIDE, and RIPEC calculations

Table 5 presents per pupil expenditures and enrollment in Rhode Island's school districts in the top and bottom quartiles based on per pupil spending. Analysis of Table 5 does not indicate a clear trend between the size of school districts and per pupil spending. For example, the top per pupil spending quartile includes the second (Warwick) ranked district by size, but also some of the smallest districts (Little Compton and Jamestown). In the bottom quartile of per pupil expenditures, the third largest district (Cranston), as well as some smaller districts (Foster-Glocester and Scituate) is found.

Per Pupil Administrative Costs

Table 6 shows enrollment and per pupil administrative spending. Per pupil administration expenditures ranged from a bw of $ 489 per pupil in Pawtucket to a high of $1,225 per pupil in Narragansett (excluding New Shoreham). The State average was $771 per pupil in FY 2003.

Table 6
School District Data, 2002-03

District	Per Pupil Adm Exp (1)	Rank	Per Pupil Spending	Rank	Enrollment	Rank
Top Quartile (2)						
Narragansett	$1,225	1	$13,923	1	1,736	30
Johnston	1,205	2	11,938	7	3,311	19
North Kingstown	1,010	3	12,106	5	4,647	9
Warwick	1,010	4	11,680	9	12,085	2
North Smithfield	995	5	8,904	32	1,875	28
Bristol-Warren	963	6	12,221	4	3,824	12
North Providence	875	7	10,854	16	3,445	17
South Kingstown	870	8	11,140	12	4,238	10
Newport	831	9	13,476	2	2,915	21
Bottom Quartile						
Central Falls	$677	27	$11,821	8	3,651	16
Portsmouth	660	28	9,092	31	2,995	20
Lincoln	611	29	9,310	27	3,706	14
Woonsocket	604	30	10,622	19	6,839	5
Barrington	582	31	9,261	29	3,356	18
Glocester	567	32	11,018	14	771	32
Foster	539	33	10,345	22	385	34
Cumberland	518	34	7,866	35	5,411	8
Pawtucket	489	35	9,705	23	9,888	4
State Average/Total	**$771**		**$10,560**		**157,201**	

(1)Per pupil spending based on fall enrollment. Administrative expenditures include leadership and business operation expenditures based on In$ite.

(2) Doesn't include New Shoreham per pupil administrative spending

Source: Spending based on In$ite, fall enrollment based on RIDE data, and RIPEC calculations.

In the top quartile of per pupil spending on administration are districts that tend to spend more per pupil. Six out of the nine districts in the top quartile for administrative spending (Narragansett, Johnston, North Kingstown, Bristol-Warren, Newport and Warwick) also have high per pupil expenditures. Districts in the bottom quartile of per pupil administrative spending tend to have lower total per pupil spending.

However, based on analysis of Table 6, there does not appear to be an absolute relationship between the size of the district and the per pupil administrative costs. In the top quartile of per pupil administrative expenditures as a percent of total expenditures, is the second largest district (Warwick), as well as some smaller districts, such as Narragansett and North Smithfield.

Table 7
Per Pupil Expenditures and
Student-Teacher Ratio for
Top and Bottom Quartiles, FY 2003

	Per Pupil Spending	Student-Teacher Ratio
Top Quartile*		
Narragansett	$13,923	10:1
Newport	13,476	11:1
Little Compton	12,990	12:1
Bristol-Warren	12,221	9:1
North Kingstown	12,106	15:1
Jamestown	11,972	14:1
Johnston	11,938	12:1
Central Falls	11,821	15:1
Warwick	11,680	13:1
Bottom Quartile		
Lincoln	$9,310	19:1
Tiverton	9,298	13:1
Barrington	9,261	14:1
Cranston	9,151	14:1
Portsmouth	9,092	13:1
North Smithfield	8,904	8:1
Scituate	8,878	15:1
Foster-Glocester	8,126	13:1
Cumberland	7,866	14:1
State Average/Total	$10,560	13:1

* Excludes New Shoreham with per pupil spending of $19,658.
Source: RIDE, and RIPEC calculations

Table 7 shows per pupil expenditures and student-teacher ratios for top and bottom quartiles. There is a slightly lower student-teacher ratio in the school district included in the top quartile when compared to the bottom quartile. The average student-teacher ratio for the top per pupil spending districts is 12.3:1, compared to 13.7:1 in the bottom spending group. However, as shown on Table 7, there are districts in the bottom quartile that have lower student-teacher ratios than do some districts who are experiencing higher per pupil spending, but there is no obvious relationship between the size of the district and the student-teacher ratio. Therefore, several factors may affect student-teacher ratios and there is no absolute correlation between per pupil spending and student-teacher ratio in all districts.

[i] Colton, "School Size, School Climate and Student Performance," in Close Up, North West Regional Education Laboratory, No. 20, May 1999.
[ii] Texas Public Policy Foundation, "Policy Perspective, February 2006, see footnotes 4-15.
[iii] Ibid.
[iv] Slate and Jones, Effects of School Size: A Review of the Literature with Recommendations, University of South Carolina, Aikens, 2005.
[v] Ibid.
[vi] Duncombe and Yinger, Does School Consolidation Cut Costs?, Center for Policy Research Working Papers, Maxwell School, Syracuse University, No. 33, 2001.
[vii] Eggers, William D., Lisa Snell, Roberta Wavra and Adrian T. Moore, Driving More Money Into The Classroom: The Promise of Shared Services, Deloitte Research and Reason Foundation, Los Angeles, CA, 2005, pp. 5, 6 and 7.
[viii] Fox, W. F. (1981) "Reviewing Economies of Size in Education," Journal of Education Finance, 6, pp. 273-296.
[ix] As cited in Hicks and Rusalkino, see: Budler and Taylor, "The Effect of School Size on Exam Performance in Secondary Schools," Valerie Lee and Julia Smith in Effects of High School Restructuring and Size on Early Gains in Achievement and Engagement and High School Size: Which Work Best and for Whom, Barnett, et al., "Size, Performance and Effectiveness: Cost-Constrained Measures of Best-Practices Performance and Secondary-School Size and Student Achievement." Sliefel, et al., "High School Size: Effects on Budgeting and performance, NYC. The sum of findings in these studies indicates that school consolidation does not have a large positive or negative impact on school performance.
[x] Hicks, Michael J. and Vaktoriya Rusalkino, School Consolidation and Educational Performance: An Economic Analysis, West Virginia High School, A Monograph Prepared for the West Virginia School Building Authority, Center for Business and Economic Research, Marshall University, Huntington, West Virgina, May 2004, p. 6, see: Andrews, Duncombe and Yinger, 2002, "Revisiting Economies of Size in American Education: Are We Any Closer to a Consensus," Economies of Education Review, 20, pp. 245-263.
[xi] See footnote vi.
[xii] See footnote vii.
[xiii] See footnote vii.
[xiv] See footnote vii.
[xv] See footnote vii.