DOCUMENT RESUME

ED 408 130 RC 021 040

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TITLE An Economical, Thorough & Efficient School System & the West Virginia School Building Authority "Economy of Scale" Numbers.
PUB DATE [96]
NOTE 40p.
PUB TYPE Information Analyses (070) -- Reports - Evaluative (142)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Consolidated Schools; Court Litigation; Criteria; Educational Equity (Finance); Educational Finance; *Efficiency; Elementary Secondary Education; Facility Guidelines; Poverty; *Rural Schools; School Closing; *School Construction; *School Size; State Agencies; *State Aid
IDENTIFIERS *Economies of Scale; Home School Proximity; Pauley v Bailey; Sparsity (Population); *West Virginia

ABSTRACT

The West Virginia School Building Authority (SBA) was created by the state legislature in 1989 to carry out a mandate of the "Recht Decision," which found the state's school financing system to be largely unconstitutional. The SBA was created to sell bonds for educational facility financing and distribute the money to county school boards based on school construction and maintenance needs. Thus, school facility needs were to get equal attention in poor and rich counties. The statute empowering the SBA set out seven goals to be used in judging county facility plans for funding, but the SBA consistently emphasized economies of scale over the other goals. This was accomplished by arbitrarily interpreting economies of scale as required school sizes, and by weighting the economy of scale factor when evaluating projects. Compared to existing school sizes in West Virginia, the required sizes were very large and resulted in widespread school closings, primarily in rural areas. This report concludes that the so-called "economy of scale" numbers are actually arbitrary and uneconomical requirements for large-sized schools, requirements neither mandated nor supported by law, and that West Virginia should scrap them. To reach this conclusion, the report examines research on true economies and diseconomies of scale and reviews the detrimental effects of large schools on poor children, of long travel times on student achievement and quality of life, and of consolidation on poor rural communities. It considers the constitutional mandate that West Virginia's school system be thorough and efficient and finds that SBA large-school requirements, disguised as economies of scale, purport with neither directive. Contains references in notes and a table of county school data. (SV)

AN ECONOMICAL, THOROUGH & EFFICIENT SCHOOL SYSTEM & THE WEST VIRGINIA SCHOOL BUILDING AUTHORITY "ECONOMY OF SCALE" NUMBERS

DEIRDRE H. PURDY

I. INTRODUCTION

The West Virginia School Building Authority (SBA) was created by the legislature in 1989 at the behest of Governor Caperton to carry out a mandate of the Recht Decision.[1] The "Recht Decision" is comprised of the findings of fact, conclusions of law, and orders in West Virginia's major education reform case which found the West Virginia school financing system to be largely unconstitutional.[2] The Recht court ordered a high quality education system to be put in place and financed "at the earliest practicable time."[3] The court,

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[1]Pauley v. Bailey, No. 75-1268, Order (Cir. Ct. of Kanawha Co., May 11, 1982) [hereinafter Recht Decision] (and supplemental opinions of May 21, 1982 and September 1, 1982 and final order of March 4, 1983).

[2]*Id.* at 222-224.

[3]*Id.*, final order at 5.

however, left implementation of its order up to the legislature, the state superintendent of schools, and the state board of education.[4] They have carried out very little of the court-mandated program.[5] The one major piece of the Recht Decision which has been implemented is state-wide facility financing through the SBA. The SBA was created to sell bonds and distribute the money raised to county school boards based on need for school building and maintenance.[6] In this manner, school facility needs were to get equal attention whether they occurred in a poor county or a rich one.

The statute empowering the SBA set out seven goals the agency should use to judge county facility plans for funding: student health and safety, economies of scale, reasonable travel time, multi-county and regional planning, curricular improvement, innovations in education, and adequate space for projected student enrollments.[7] Since its inception, however, the SBA has emphasized economies of scale over the other goals. This has been accomplished in two ways: first, by arbitrarily interpreting economies of scale as *required* school sizes and second, by weighting the economy of scale factor when evaluating

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[4]*Id.*, Sept. 21, 1982 supplemental op. at 1-3.

[5]The *Pauley* case, *supra* note 1, which resulted in the Recht Decision, was not closed. Although the court deferred to the legislative and executive branches of state government, the circuit court retained jurisdiction. Recht Decision, *supra* note 1, final order at 7. The case has now been re-opened with new plaintiffs as *Tomblin v. Gainer*. Attachments to the motion for enforcement of judgment detail the Legislature's failure to alter most elements of the funding formula found unconstitutional by Judge Recht in 1983. *Tomblin v. Gainer*. Kanawha Co. No. 75-1268, Am. Mot. for Enforcement of Judgment, Feb. 23, 1996, App. B and C.

[6]W. VA. CODE §§ 18-9D-1 to -16 (1994). The SBA's initial financing mechanism was found unconstitutional in 1993 and funding was reorganized. *See infra* note 72.

[7]W. VA. CODE § 18-9D-16 (1994). See *infra* note 68 for discussion of current statute which was amended in 1994 to add one goal.

projects.[8]

As one of its initial acts, the SBA generated a one-page Economies of Scale regulation.[9] This document does not actually discuss or refer to economies of scale at all, but instead sets minimum student enrollment requirements "needed for a school to be eligible for SBA funding" for new buildings or additions or major improvements for existing schools.[10]

The minimum required student enrollments to meet SBA guidelines for economies of scale are

Kindergarten:	2 classes of 20 students
Grades 1-8:	2 classes of 25 students per grade level
Grades 5-9:	150 students per grade level
Grades 10-12:	200 students per grade level[11]

These numbers produce basic required school sizes of

K-8 grade school:	440 students
5-8 middle school:	600 students
9-12 high school:	750 students[12]

Compared to existing West Virginia schools sizes, these required school sizes were very large. In 1992, after seventy-five small schools had been closed, 61% of West Virginia

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[8]See discussion immediately below and *infra* parts IV.B, IV.C.

[9]SCHOOL BUILDING AUTHORITY, W. VA. DEP'T OF EDUC., GUIDELINES & PROCEDURES HANDBOOK 68 (March 1995).

[10]*Id.*

[11]*Id.* Although the document title says that these school sizes are required to "*meet* . . . guidelines for economies of scale," there are no separate or additional economy of scale guidelines. These required school sizes *are* the economy of scale guidelines.

[12]*Id.*

schools were still too small to be eligible for SBA funding according to the economy of scale numbers.[13] Existing schools were generally smaller than these SBA-required school sizes because the SBA requirements fail to factor in the population sparsity of much of this rural state. Pocahontas County, for example, has only one 488-student high school because that is all the high schools student there are in the county's 943 square miles.[14] Sparsely populated counties must gather widely scattered students from much larger geographic areas -- the larger the school the larger the area -- with attendant increases in transportation cost and students' time on school buses.[15] In other words, inappropriately sized schools may suffer from diseconomies of scale.[16] To some extent, existing school sizes reflected geographic and demographic realities; the SBA school size requirements ignored them in favor of a one-required-size-fits-all formula.

The SBA evaluates county facility plans in order to award funding, using a scale of one to nine to measure how well a plan meets each statutory goal. Without legislative mandate, however, the authority has also weighted these goals.[17] Economy of scale

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[13]*See* F & A STATISTICS DIVISION, W. VA. DEP'T OF EDUC., REPORT NO. EDS002P1, NET ENROLLMENTS BY GRADE K - 12, (1991); *see also* Deirdre Purdy, West Virginia Schools Not Eligible for SBA Net Enrollment Funding According to SBA Economy-of-Scale Guidelines (1992) (unpublished testimony to House of Delegates Education Committee).

[14]W. VA. DEP'T OF EDUC., EDUCATION DIRECTORY 165 (1996).

[15]M. David Alexander, *Public School Pupil Transportation: Rural Schools*, 16 JOURNAL OF EDUCATION FINANCE 226, 236 (1990). *See also* discussion *infra* at 33.

[16]WILLIAM F. FOX, U.S. DEP'T OF AGRICULTURE, ECONOMICS, STATISTICS, AND COOPERATIVE SERVICE TECHNICAL BULLETIN NO. 1621, RELATIONSHIPS BETWEEN SIZE OF SCHOOLS AND SCHOOL DISTRICTS AND THE COST OF EDUCATION 18 (1980).

[17]SCHOOL BUILDING AUTHORITY, *supra* note 9, at 84.

numbers have a 1.5 weight,[18] so plans which meet the required school sizes get "extra credit." Factors presumed to accompany larger school size, such as improved curriculum, also have a 1.5 weighting.[19] Student transportation time, which suffers with larger school size, has only a 1.0 weighting.[20] SBA funding is a highly competitive race for tens of millions of dollars. These weighted goals ensure that larger schools will get higher rankings to secure funding, which means that only larger schools will be built or have major maintenance, whether or not they are more economical.

This article concludes that the so-called "economy of scale" numbers are actually arbitrary and uneconomical requirements for large-sized schools, requirements which are neither mandated nor supported by the law, and West Virginia should scrap them. To reach that conclusion, the article examines educational finance research on true economies and diseconomies of scale. The article reviews research on the detrimental educational effects of large schools on poor children and on children who suffer long travel times (in rural areas these are often the same children).[21] It considers the constitutional mandate that West Virginia's school system be thorough and efficient[22] and finds that SBA large school

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[18]*Id.*

[19]*Id.*

[20]*Id.*

[21]These forced diseconomies and negative educational outcomes raise equal protection issues for sparsely populated rural counties and poor children across the state. Full consideration of equal protection issues is beyond the scope of this article; however, the disproportionate impact of "economy of scale" numbers on poor, rural children and sparsely populated counties documented here establishes the factual premise of an equal protection argument.

[22]W. VA. CONST. art. XII, § 1.

requirements, disguised as purported economy of scale numbers, comport with neither of those directives.

II. Context in which the SBA was Created

A. Pauley v. Kelly, the Recht Decision, the Master Plan

The West Virginia Constitution requires that "the legislature shall provide, by general law, for a thorough and efficient system of free schools."[23] In 1975, the parents of five Lincoln County schoolchildren filed a declaratory judgment action alleging that the method of financing public schools denied them a thorough and efficient education and equal protection of the law.[24] The Kanawha County Circuit Court dismissed the action and plaintiffs appealed.[25] In a far-reaching decision, the West Virginia Supreme Court of Appeals (Supreme Court), examined "thorough and efficient" clauses in state constitutions throughout the country to arrive at its own definition:

> [A] thorough and efficient system of schools . . . develops, as best the state of education expertise allows, the minds, bodies and social morality of its charges to prepare them for useful and happy occupations, recreation and citizenship, and does so economically.[26]

The court is thus clear that the first constitutional requirement is a high quality education system. Economy, while not exactly an afterthought, is still secondary or subordinate to thoroughness.

Because the State constitution requires a thorough and efficient system of schools,

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[23]*Id.*

[24]Pauley v. Kelly, 255 S.E.2d 859 (W. Va. 1979).

[25]*Id.* at 2.

[26]*Id.* at 877.

education is a fundamental constitutional right in West Virginia.[27] As a constitutionally derived right, education thrusts a strict scrutiny equal protection standard upon the State.[28] No discriminatory classification found in the educational financing system can stand unless the State can demonstrate some compelling State interest to justify the unequal classification.[29]

Although the Supreme Court was clear about these constitutional principles, when the Court turned to the constitutionality of the State funding formula, it found that that issue could not be resolved or even addressed on the record from the *Pauley* court because the Thorough and Efficient Clause requires the development of high quality educational standards.[30] Without such standards the court could not determine whether the existing system had failed, much less "whether this failure [is] a result of inefficiency and failure to follow existing school statutes."[31]

The Supreme Court remanded the case to Kanawha County Circuit Court and appointed the Honorable Arthur Recht to consider these questions. Forty days of testimony produced the Opinion, Findings of Fact and Conclusions of Law, and Order which came to

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[27]*Id.* at 878.

[28]*Id.*

[29]*Id.*, *citing* State *ex rel.* Piccirillo v. City of Follansbee, W. Va., 233 S.E.2d 419 (W. Va. 1977); Cimino v. Board of Education of County of Marion, W.Va., 210 S.E.2d 485 (W. Va. 1974).

[30]*Pauley*, 255 S.E.2d at 878.

[31]*Id.*

be known as the "Recht Decision."[32] This Decision set detailed standards for every area of education.[33] Numerous aspects of the state education support plan were found to be unconstitutional *per se* and discriminatory.[34] The Recht Decision concluded by appointing a commissioner to oversee development of a master plan to implement the Decision."[35]

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[32]Recht Decision, *supra* note 1.

[33]The Court heard testimony from numerous educational experts presented by plaintiffs regarding high quality education standards. "No real attempt was made by the State defendants to offer any direct testimony to refute these standards. Therefore, this Court had no other choice than to consider and adopt the standards set forth in this opinion and findings, as being based on the only credible, clear and convincing proof offered during the trial." Recht Decision, *supra* note 1, Supplemental Op. of May 21, 1982 at 5-6.

[34]Recht Decision, *supra* note 1, at 222-223.

The state education financing issues remain unresolved. In 1985, Judge Cook, who had replaced Judge Recht, ordered that if the Legislature had not provided adequate revenues to replace or equalize excess levy revenues by July 1, 1987, the Court would act to redistribute available county excess levy revenues among all counties. Pauley v. Gainer, Kanawha Co. 75-1268, Order, Dec. 5, 1985. Judge Cook's proposed remedy was renewed in a June 29, 1987 order, but the Court agreed to wait to see the results of a statewide excess levy election scheduled for March 5, 1988. Pauley v. Gainer, Kanawha Co. 75-1268, Order, June 29, 1987. After the statewide levy failed, Judge Cook's order was appealed. (Judge Cook had been replaced by Judge Chafin.) The Supreme Court found that W. Va. Const. art. X, § 10 expressly authorizes county excess levies. Since a broad constitutional precept is to be tempered by a more specific one and since excess levies operate evenly on all property, excess levies did not violate equal protection principles. The Court found the true focus of *Pauley* to require examination of the school financing formula without consideration of excess levy revenues. State *ex rel.* Bds. of Educ. Upshur Co. v. Chafin, 376 S.E.2d 113 (W. Va. 1988).

Pauley, supra note 1, has been re-opened with new plaintiffs as Tomblin v. Gainer. Before the Kanawha County Circuit Court, Judge Robinson now sitting, plaintiffs call for a timetable for implementation of the Master Plan, particularly the school financing system, and appointment of a special master or commissioner to oversee that implementation. Tomblin v. Gainer, Kanawha Co. No. 75-1268, Am. Mot. for Enforcement of Judgment, Feb. 23, 1996. Exhibits to the motion detail the Legislature's failure to alter most elements of the funding formula found unconstitutional by Judge Recht in 1983. *Id.*

[35]The commissioner's name was left blank in the Recht Decision. On September 1, 1982, the Court ordered that, since the State Superintendent of Schools and the State Board of Education had abandoned any appeal of the Recht Decision, they be allowed to form a responsible committee to develop the Master Plan. Sept. 21, 1982 Order, *supra* note 1, at 2.

The Recht Decision and the Master Plan are both extremely detailed documents (down to requiring maracas in music rooms[36] and setting the square footage of a library browsing area[37]). Both are also very input-oriented[38] and require many things: teachers, programs, buildings, books, musical instruments, and playing fields. The SBA's first defense of its large school building and consolidation program is always that it is carrying out these directives.[39]

The educational standards of the Recht Decision are not, however, "necessarily those which should be included in the master plan to be developed pursuant to this opinion."[40] Judge Recht said,

> [T]his Court cannot and does not have the power -- authority -- or jurisdiction to DEMAND that the West Virginia Legislature adopt this

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Many have alleged that thus was the fox put back in charge of the henhouse. However, the Court did retain jurisdiction to oversee implementation of the Master Plan. Final Order, *supra* note 1, at 7.

[36]W. VA. BOARD OF EDUCATION, A MASTER PLAN FOR PUBLIC EDUCATION 101 (1983).

[37]Recht Decision, *supra* note 1, at 49.

[38]Craig B. Howley, Sizing Up Schooling: A West Virginia Analysis and Critique 189 (1996) (unpublished Ph.D. dissertation, West Virginia University). Two articles based on the dissertation have been published: Craig Howley, *Compounding Disadvantage: The Effects of School and District Size on Student Achievement in West Virginia,* 12 J. RES. RURAL EDUC. 25 (1996); Craig Howley, *The Matthew Principle: A West Virginia Replication?*, 3 EDUC. POL'Y ANALYSIS ARCHIVES 18 (1995), *available in* http://seamonkey.ed.asu.edu/epaa/v3n18.html. Howley is the Director, ERIC Clearinghouse on Rural Education and Small Schools, Appalachia Educational Laboratory, Inc., PO Box 1348, Charleston, W. Va. 25325.

[39]The first evidence entered by the SBA in defending consolidation of two Pendleton County high schools was a 4-inch stack of documents consisting of *Pauley v. Kelly*, the Recht Decision and the Master Plan. Pendleton Citizens v. Marockie, Kanawha Co. No. 96-C-507, Hearing (April 12, 1996).

[40]Recht Decision, *supra* note 1, May 21, 1982 Supplemental Op. at 8.

> particular plan or for that matter, any single piece of legislation -- to do so would violate the traditional concepts of the separation of power -- specific legislation is exclusively a legislature function.[41]

Similarly, when the ninety-nine-member committee finished its 356-page Master Plan in 1983, Judge Recht noted that it was only "an aid to the Legislature . . . [and] not intended to intrude upon any legislative prerogative."[42]

What authority, if any, the specific educational requirements of the Master Plan retain is unclear. The plan was based on recommendations which were the "best the state of education expertise allow[ed]" -- in 1983.[43] The plan was to be updated every four years.[44] The plan has never been updated, nor is a time frame in place for implementation[45] although the Court's final order required that "a thorough and efficient system of free public schools [be] available at the earliest practicable time."[46]

The Recht Decision's conclusions of law clearly retain their validity; none has been overturned, or even questioned. "Equal protection," the Court found, "requires equality in substantive educational offerings and results."[47] But Recht is clear that the state's legal duty to provide equal educational opportunities does not mean providing identical resources or

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[41]*Id.* at 9.

[42]Recht Decision, *supra* note 1, Mar. 4, 1983 Final Order at 2.

[43]Pauley v. Kelly, *supra* note 24, at 877.

[44]Master Plan, *supra* note 36, at 10.

[45]In the re-opened *Pauley* case, now styled Tomblin v. Gainer, *supra* note 5, plaintiffs ask for a timetable for implementation of the Master Plan, particularly regarding financing.

[46]Recht Decision, *supra* note 1, Final Order at 5.

[47]*Id.* at 219, citing Pauley v. Kelly, n.7.

one-size-fits-all plans. Equal does not mean identical. Resources must be allocated according to needs and costs, and all factors contributing to differences in needs and costs "must be incorporated into the financing structure."[48] In particular, Judge Recht recognizes that there are unequal costs and greater need due to isolation, population sparsity, terrain, road conditions, and resulting small school size.[49]

B. Rural West Virginia: Poverty, Sparsity, and Difficult Geography

The conditions Judge Recht recognized still affect a majority of West Virginia counties and county school systems in 1996. West Virginia is a rural state, the second most sparsely populated state in the east.[50] The majority of its children, seventy percent, are enrolled in rural and small town schools.[51] Of its fifty-five counties, twenty-seven have less than 10 students per square mile.[52] The remaining twenty-eight counties, by comparison, have an average of twenty-five students per square mile.[53]

The sparsely populated counties are poorer. Sixty percent of their students are eligible for free and reduced lunch, compared to forty-five percent of students in more

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[48]Recht Decision, *supra* note 1, Conclusions of Law 12 and 13, at 217-218.

[49]*Id.* at 218-9.

[50]W. VA. DEPT. OF EDUCATION, SCHOOLS IN CRISIS: STUDENTS AT RISK [hereinafter CRISIS] 1 (Mar. 1989).

[51]Howley, *supra* note 38, at 187.

[52]ARNOLD MARGOLIN, EDUCATION POLICY RESEARCH INSTITUTE, W. VA. EDUCATION FUND , FRAGILE: EDUCATION IN THE BALANCE T-21 (1996).

[53]See table, *infra* at 37.

densely populated counties.[54] A landmark study by the W. Va. Dept of Education in 1989 found that sparsely populated counties had substantially higher unemployment, lower per capita income, larger numbers of special education students, fewer gifted students, and fewer adults with a high school education.[55] These disparities have not changed, but in 1989 only twenty-five counties were sparsely populated[56]; now twenty-seven are.[57]

The sparsely populated counties have a harder time supporting their schools. In the past five years, some counties have ended the year with budget deficits; eighty-one percent of those counties were rural.[58] For fiscal year 1995, fifteen of the sixteen counties without an excess levy were sparsely populated.[59] As a further conclusion of law, Judge Recht found that "[t]he present system allocates funds according to factors such as the amount of a county's property wealth and its ability to pass excess and bond levies. These factors bear no relation to educational needs and costs of substantive educational offerings and results."[60] To meet constitutional standards, Recht required eliminating county excess levies and using

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[54]W. VA. DEP'T OF EDUC., W. VA. CHILD NUTRITION PROGRAM, PERCENTAGE OF NEEDY STUDENTS (BY SCHOOL) 1,2 (1995).

[55]CRISIS, *supra* note 50, at 4-18.

[56]*Id.* at 2.

[57]MARGOLIN, *supra* note 52, at T-21.

[58]W. VA. DEP'T OF EDUC., COUNTY BDS. OF EDUC., UNRESERVED FUND BALANCE AT YEAR END, GENERAL CURRENT EXPENSE FUND, FYE 6-30-92 THROUGH 6-30-96 (1996).

[59]MARGOLIN, *supra* note 52, at 14.

[60]Recht Decision, *supra* note 1, at 220.

needs-based rather than per-pupil funding.[61] Neither crucial change has been adopted.[62]

Ironically, the most important item of the Recht Decision which has been adopted, the state-supported facilities funding program or SBA, through application of its economy of scale numbers, requires rural counties to build schools which are inappropriately sized for their population sparsity, terrain, and road conditions. Additionally, the poverty of the rural counties creates special educational needs which are best met in smaller schools.[63] The one-large-size-fits-all school size requirement ignores these special needs and special costs which, according to the Recht Decision, it is the state's legal duty to consider.[64]

III. THE SBA AND THE TEN-YEAR SCHOOL BUILDING PLAN

In 1989, by request of the executive, the Legislature created the School Building Authority[65] to "provide state funds for the construction and maintenance of school facilities so as to meet the educational needs of the people of this state in an efficient and economical manner."[66] The funds available to the authority were to be used:

> Three percent for statewide projects,
> Fifty percent of the remaining funds to each county based on net enrollment,
> Fifty percent of the remaining funds allocated on the basis of "need and efficient use of resources, such basis to be determined by the authority in accordance with

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[61]Recht found the arbitrary per pupil funding limits of the education funding formula (W. Va. Code §§ 18-9A-4,5) unconstitutional per se. Recht Decision, *supra* note 1, at 222-223. Not only are they still in place, but funding per pupil has been reduced. *See infra* note 84.

[62]*See* Tomblin v. Gainer, *supra* note 5.

[63]*See* discussion *infra* part VI.A.

[64]Recht Decision, *supra* note 1, at 217.

[65]1989 W. Va. Acts 427, 428.

[66]W. VA. CODE § 18-9D-15 (1994).

the provisions of section sixteen of this article.[67]

Section sixteen sets out the criteria by which facility plans and need-based eligibility are to be judged. The legislature originally set seven goals which county facility plans were to address:

(1) Student health and safety;
(2) Economies of scale, including compatibility with similar schools that have achieved the most economical organization, facility utilization and pupil-teacher ratios;
(3) Reasonable travel time and practical means of addressing other demographic considerations;
(4) Multicounty and regional planning to achieve the most effective and efficient instructional delivery system;
(5) Curricular improvement and diversification, including computerization and technology and advanced senior courses in science, mathematics, language arts and social studies;
(6) Innovations in education such as year-round schools and community-based programs; and
(7) Adequate space for projected student enrollments.[68]

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[67]*Id.* The "needs" projects are the major building projects, usually new buildings. Because the SBA has required counties to apply their available "net enrollment" money to these projects also, the needs projects (73 schools) have commandeered 79 percent of the $505,838,965 the SBA has made available, leaving only 18% of the money for the remaining 90 percent of the state schools. SBA, *supra* note 9.

In 1994 the "net" program was replaced by the major improvement plan program, which allowed the SBA to apply the "economy of scale" numbers to non-need projects. W. VA. CODE § 18-9D-16 (Supp. 1996).

[68]W. VA. CODE § 18-9D-16(d) (1994).

In 1994 an eighth goal was added: "(8) To the extent constitutionally permissible, each facilities plan shall address the history of efforts taken by the county board to propose or adopt local school bond issues or special levies." *Id.*

The SBA lobbied for this additional goal. Language of the initial legislation, which remains in the statute today, provides that "[n]o local matching funds may be required under the provisions of this section." W. VA. CODE § 18-9D-15(g) (1994). Some counties had plans funded by the SBA, but failed to pass "matching" bonds, and their funding was snatched. Goal number eight, although after the fact, allows the SBA to take such failure to adopt local bond issues into account despite the otherwise specific language of the statute.

Creation of the SBA caused excitement, even jubilation, among school administrators and school board members who, in too many cases, had old buildings, on-going maintenance needs, and no local building funds at all.[69] The potential availability of tens of millions of dollars incited a flurry of planning, and this planning was based on the initial substantive act of the SBA: creation of the "economy of scale" minimum required school sizes.

Creation of the SBA was the first step in the state's 10-year school building plan, according to a speech Governor Caperton gave at the National Conference on Educational Facilities.[70] The ten-year plan was to close 245 schools by the year 2000[71]. It would cost $1.2 billion,[72] save $307 million through repair and renovation and save $47 million a year

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[69]West Virginia schools rely for funding on a seven step funding formula. W. VA. CODE §§ 18-9A-4 to -10 (1994). There is no step for building or maintenance. Counties with excess levies may use these funds for construction and maintenance, or counties may pass bonds specifically for school construction. In poorer counties passing bonds or levies is politically difficult. Excess levies also raise relatively less money in poor counties because county property is worth less.

[70]*Caperton Talks About 10-year School Plan at Conference,* CHARLESTON GAZETTE, June 5, 1991, at 7C.

[71]*Id.* Actually the SBA program closed 258 schools, that is more than 25% of the state schools, by 1994, six years ahead of schedule. Howley, *supra* note 38, at 202.

[72]*Caperton*, *supra* note 70. The $1.2 billion in school construction funds over 10 years was to come from the sale of bonds. $347 million of this "easy money" was pledged before the question was brought to the Supreme Court whether the funding plan unconstitutionally committed the State to long-term debt without a vote of the people. The court found this was exactly what had happened. *See* Winkler v. State School Building Authority, 434 S.E.2d 420 (W. Va. 1993). The legislature has now committed lottery revenues to pay the next 10 years' debt-service for SBA bond sales to date. Long-range funding of any state school facilities plan has thus been jeopardized by political haste. Politicians had a good idea what public reaction would be to such long-term debt. There is little question that a conscious decision was made to fund the SBA without asking for a constitutional amendment.

in maintenance and personnel.[73]

That the governor's school *building* plan involved *closing* 245 schools was a clue to the policy direction the SBA would take.[74] The immediate issuance of economy of scale numbers cemented the deal. When the economy of scale numbers were issued in 1989 only thirty-four percent of existing schools in West Virginia were eligible for SBA funding based on these size requirements.[75] For counties to build schools that would be large enough to be eligible for SBA funds, other schools, smaller schools, would have to close. There was no need, therefore, for the governor or any policymakers to urge "consolidation" because the only way to reach the economy of scale required enrollment numbers would be for some schools to close and merge. In fact, predominately smaller and largely rural schools closed and their students merged into existing student bodies.[76] Through application of the one-page economy of scale regulation, a school building program automatically became a school

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[73]*Caperton*, *supra* note 70. The savings figures were the sum of those projected by each county in their facilities plan. Counties vied to project the greatest savings to make their projects more competitive, but the numbers had no objective basis. By 1995 the SBA was projecting total *annual* savings from construction projects funded of $20,898,049. SCHOOL BUILDING AUTHORITY, REPORT BEFORE THE SENATE COMMITTEE ON FINANCE 6 (1995).

[74]Another clue was the governor's choice for state superintendent of schools, Dr. Henry "Hank" Marockie, who had successfully closed small schools in Ohio County when he was county school superintendent. MARY F. HUGHES, RURAL, SMALL SCHOOLS PROGRAM, PPALACHIA EDUCATIONAL LABORATORY, THE SOCIAL, ECONOMIC, AND POLITICAL CONTEXT IN WHICH CONSOLIDATION OF PUBLIC ELEMENTARY AND SECONDARY SCHOOLS AND/OR DISTRICTS TOOK PLACE IN WEST VIRGINIA 44 (1991). Ohio County is the most densely populated county in the state with 58.20 students per square mile. MARGOLIN, *supra* note 52, at T-21.

[75]F & A STATISTICS, *supra* note 13.

[76]Howley, *supra* note 38, at 210,

closing and consolidation program.[77]

IV. Economies of Scale

A. Bigger Isn't Necessarily Cheaper

In the SBA statute one of eight facility planning goals is

> (2) Economies of scale, including compatibility with similar schools that have achieved the most economical organization, facility utilization and pupil-teacher ratios.[78]

Use of the term "economies of scale" in the statute incorporates an assumption that larger schools will be cheaper schools. The notion that a larger factory will produce cheaper widgets is commonsensical, perhaps, but the analogy between a widget factory and a school as "producers" is weak.[79] For services, such as education, the input/output relationship is difficult to define[80] and output measures should consider not just the number of students "processed," but also if and how well they are educated.

Nevertheless, in the 1960s and '70s researchers, ignoring educational outcomes and costs outside of the school building, sought the "most economical school size."[81] A review

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[77]One political plus of building large schools was job creation. The 1993 SBA eleven-page presentation to the West Virginia legislature, for example, contained seven pages of charts and graphs showing Full-time Jobs, Projected Job Years Created by Educational Construction Expenditures, 1991-1995, SBA Impact on West Virginia's Economy during 1991 ($88,900,000), Projected 5 year Economic Impact of the SBA on West Virginia's Economy, 1991-1995 ($628.2 million), Increased Tax Revenue, and more. School Building Authority, Legislative Presentation 3-8, 11 (1993).

[78]W. Va. Code § 18-9D-16(d)(2) (1994).

[79]Fox, *infra* note 16, at 2.

[80]*Id.* at 11.

[81]*Id.* at 2.

of thirty such studies finds the answers range from 100 to 1800 students.[82] Where optimum schools sizes were smaller, the analysis was based on rural schools.[83] The same studies consistently found diseconomies in schools both larger and smaller than their optimum.[84]

"Economies of scale" is thus a more complex notion than just bigger is cheaper. Such size-economies research typically presumes that external costs do not change with school size,[85] but, in fact, school consolidation enlarges the geographic area from which students are drawn, increasing transportation expenses or travel times, or both, particularly for more sparsely populated areas.[86] Capital costs are an additional factor in economy equations when new buildings are constructed, and may offset any potential operating cost savings.[87] Other potential diseconomies of larger consolidated schools include: diminished school bond or levy support, increased salaries for more specialized staff to offer promised improved curricula, higher rates of vandalism,[88] higher insurance costs, and larger physical plants to maintain.[89]

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[82]*Id.* at 7-10. Summary of education size-economies research table.

[83]*Id.* at 18.

[84]Fox, *supra* note 16, at 17.

[85]*Id.* at 19.

[86]*Id.*

[87]*Id.* at 20.

[88]James S. Streifel et al., *The Financial Effects of Consolidation*, 7 J. RES. RURAL EDUC. 13, 14 (1991).

[89]RICHARD R. VALENCIA, STANFORD UNIVERSITY INSTITUTE FOR RESEARCH ON EDUCATIONAL FINANCE AND GOVERNANCE, SCHOOL CLOSURES AND POLICY ISSUES, POLICY PAPER NO. 84-C3 5 (1984).

No magic number is THE school size for the most economical organization. Further, as the research reviewed above suggests, population sparsity is a crucial factor in determining what size school will be most *efficient in a particular geographic and demographic setting*. The well-written statutory language invites such a contingent analysis. "Compatibility with similar schools that have achieved the most economical organization, facility utilization and pupil-teacher ratios"[90] is a very open-ended criterion. Weighed equally with the other six goals it should help balance effectiveness with economy.

B. West Virginia Economy of Scale Numbers

The SBA economy of scale numbers take none of this complexity into account. They are simply based on current statutory class-size requirements. Clacy Williams, Executive Director of the SBA, testified that the West Virginia Code requires "construction of school facilities using efficiencies, [and] [w]e have identified that efficiency as being primarily in relationship to the size of the school."[91] Williams says, "There's a statute that requires that elementary grades one through six not exceed 25 students per classroom, so we figured if that's good enough for elementary school, that probably we should carry that forward."[92] However, minimum school-size requirements do not just "carry that forward," but instead require 150 students per grade in middle school and 200 students per grade in high school.[93] The SBA has never offered any explanation of the middle and high school "economy of

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[90]W. VA. CODE § 18-9D-16(d)(2) (1994).

[91]Pendleton, *supra* note 39, at 107.

[92]*Id.* at 107-108.

[93]SBA, *supra* note 9, at 68.

scale" minimum school-size requirements.[94] Had the authority looked at available research they would have found that "[s]chool closures in most cases mean only slight savings because 75-85% of a school budget is for personnel costs, which are usually only slightly affected, if at all, by closures."[95]

Teachers are expensive, so the fewer required, the cheaper the school.[96] Improved student learning with lower pupil-teacher ratios suggests this is not always a wise economy, but the state per-pupil funding formula has made it necessary.[97] However, the twenty-five pupil limit on class sizes already guarantees this economy.[98] Teachers may have up to three additional students (up to twenty-eight) for which they are paid "per head."[99] Then an

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[94]In response to a FOIA request for any research which supports the SBA economy of scale numbers, Clacy Williams, Executive Director, provided only a copy of W. Va. Code 18-5-18a, which gives the maximum teacher-pupil ratio for grades one through six. Personal communication from Clacy Williams in response to FOIA request to SBA, September 11, 1996.

[95]Valencia, *supra* note 89, at 5. Although West Virginia has closed more than twenty-five percent of its schools since 1990, in 1990 there were 13.45 students for each professional educator and in 1995 there were 13.54. *See* MARGOLIN, *supra* note 52, at T-2. That is, no appreciable savings have been realized in professional personnel by these closures.

[96]*See* W. VA. DEP'T OF EDUC., FINAL COMPUTATIONS, PUBLIC SCHOOL SUPPORT PROGRAM, 1996-1997 1 (1996).

[97]In 1990 the legislature reduced the number of professional educators funded by the state from fifty-five per thousand to fifty-three and a half per thousand commencing for the school year 1991-1992 and thereafter. 1990 W. Va. Acts 1567.

This reduction in the number of state-funded professional educators freed funds for salary increases for the teachers who remained. Howley, *supra* note 38, at 228.

State lawmakers used this change in the state school aid formula as additional pressure to force schools to consolidate. Hughes, *supra* note 74, at 40.

[98]W. Va. Code § 18-5-18(a) (1994).

[99]*Id.*

additional teacher must be hired.[100] Having two classes of twenty-five per grade instead of one actually gives the administration only three "extra" students to shuffle around before another teacher is required. So if economy of scale numbers are based on pupil-teacher ratios, the numbers might as well have required schools with one twenty-five-student class per grade with very little loss of efficiency, or three classes per grade with very little gain.

An arbitrary rule is one selected at random rather than based on reason. The two class per grade school-size requirement, having no demonstrable relation to economy or savings, is arbitrary. The requirements for 150 students per grade for grades five through nine and 200 students per grade for grades ten through twelve, having no proffered reasonable bases at all, are similarly arbitrary. To enact an arbitrary rule is to act capriciously, without reason, at random. The SBA has acted arbitrarily and capriciously in creating and imposing the economy of scale required school sizes.

C. Economies of Scale and the Seven Other Goals

The SBA treats economy of scale as the most important goal, although it systematically denies that it does so. When asked by the Judge Kaufman during a hearing in the Pendleton County consolidation case whether the size of the school bears on the funding, Clacy Williams, SBA Executive Director replied, under oath, "It's a very small issue."[101] Judge Kaufman spends the next eight transcript pages trying to understand why, in that case, the SBA would not just let Pendleton County spend the same amount of money to be used on

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[100]*Id.* For grades one through three, additional pupils above twenty-five per class have been phased out so that, as of 1996, no additional pupils are allowable in these classrooms. *Id.*

[101]Pendleton, *supra* note 39, at 108.

the one consolidated high school to upgrade both existing high schools. Williams gives what has become the classic response to citizens who oppose SBA-funded consolidation plans: that would not be the same competitive plan that won SBA funding.[102]

What makes a school building plan competitive? The SBA review team ranking is the basis for funding. After each plan is evaluated by a statewide RESA committee,[103] a review team composed of three SBA staff members and Williams then re-evaluates the plans using the SBA "Plan Review Team Project Summary Form."[104] The SBA team evaluates each project on a scale from one to nine on seven criteria which generally match the goals in section 18-9D-16. Then the SBA multiplies each rank by the "SBA Index": 1.5 for economies of scale, curricular improvement, educational innovations, and existing health or safety conditions; 1.0 for multi-county projects, existing severity of need for space to house projected student enrollment, impact on student travel, and an SBA-added "goal": SBA review team overall rating.

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[102]*Id.* at 108, 119. Williams also offers now-classic reason two: we don't "second-guess" the county Board of Education. *Id.* at 119. Suffice it to say that if facility funding is based on criteria which give higher ratings to larger schools, local boards will enter plans in a funding competition which meet those large school standards.

This article does not address the extremely important issue of state/local education authority and control over school closings and consolidations, particularly in a state with a "thorough and efficient" education clause in its constitution. In West Virginia, this issue has been clearly resolved in favor of the state. *See* Kanawha Co. Bd. of Educ. v. W. Va. Bd. of Educ., 399 S.E.2d 31 (W. Va. 1990). *See also* Pell v. Monroe Co. Bd. of Educ., 426 S.E.2d 510 (W. Va. 1992) (discussing how introduction of the SBA has altered the state/local power relationship).

[103]A RESA is a Regional Educational Service Agency, a multi-county educational service organization, created by statute: W. VA. CODE § 18-2-26 (1994). A statewide RESA team is composed of school board members and superintendents, representing each of the eight state RESAs.

[104]SCHOOL BUILDING AUTHORITY, *supra* note 9, at 84.

The law nowhere authorizes such indexing nor suggests these seven criteria are of unequal importance[105]. The SBA simply invented this weighting in 1989, deciding "by consensus" that four of the criteria were the "most significant in the evaluation of projects."[106] Ranking economy of scale at 1.5, especially when that criterion no longer truly refers to economy, but refers instead to the SBA-invented school size numbers, totally skews the rankings to schools of SBA-favored size. Improved curriculum is assumed to follow large school size, so larger schools automatically get higher rankings for curriculum improvement.[107]

Downgrading severity of need for space to 1.0 ignores the fact that a few West Virginia counties' schools are experiencing booming growth and need larger facilities. The legislature thought this was as important as the other goals; the SBA does not. The State

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[105]Nor does the law say that up to ten percent of a project's rating (nine of ninety possible points) may be "added" by the SBA review team solely on the basis of the review team's "overall rating," which is already based on SBA-weighted criteria. This piles subjectivity on subjectivity to produce an ostensibly objective number from one to ninety on which tens of millions of dollars are riding. "This is a very subjective process," said SBA member Jim McCallum. Linda Blackford, *Schools Panel Drops Fight, Awards Funds,* CHARLESTON GAZETTE, June 8, 1995, at 1C.

[106]Personal communication from Clacy Williams in response to FOIA request to SBA, September 11, 1996. Williams also testified that the SBA considered this to be "fleshing out" the code. Pendleton, *supra* note 39, at 106.

[107]As with the "economy of scale" numbers, no research supports this conclusion. Curriculum improvement makes no difference in elementary schools, and studies show that high schools graduating 100 students a year have curricula essentially equivalent to that available at larger schools. Full discussion *infra* at 28.

This high ranking for improved curriculum comes "automatically" with large school size because counties are not required to justify these promises. Plans say things like, "A consolidated program would allow more school-based instruction, increasing time on task and reinforcement of regular education curriculum." CALHOUN COUNTY BD. OF EDUC., COMPREHENSIVE EDUCATION FACILITIES PLAN 7 (1990).

Board of Education emphasizes the importance of multi-county projects and talks about abolishing county school boards, if need be, to accomplish them.[108] The SBA rates multi-county projects at 1.0,[109] discouraging counties from proposing them.

Although numerical rankings give the process the appearance of objectivity, there are no objective criteria (except the economy of scale numbers) by which these rankings are assigned. Transportation is a good example of the underlying subjectivity of the SBA review process. Transportation becomes more expensive[110] and much harder on rural children and their families after consolidation.[111] The SBA decided those considerations were worth only a 1.0.[112] Not only the weighted index, however, but also the raw number is subjective.[113]

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[108]Linda Blackford, *Where is Consolidation Heading?* CHARLESTON GAZETTE, March 31, 1995, at 1A.

[109]SCHOOL BUILDING AUTHORITY, *supra* note 9, at 84.

[110]CRISIS, *supra* note 42, at 18-19. *See also* Alexander, *supra* note 15, at 235-238. Additional school bus transportation also has a substantial personnel cost for rural counties. Service personnel are allotted on a per pupil basis. The more bus drivers needed, therefore, the fewer classroom aides, secretaries, janitors, or maintenance positions are available for school and students' needs. See table, *infra* at 37.

[111]Michael Fox, *School Transportation as a Daily Constraint in Students' Lives,* 17 RURAL EDUCATOR 22 (1996).

[112]SCHOOL BUILDING AUTHORITY, *supra* note 9, at 84.

[113]Because consolidation creates larger school zones, travel times will seldom be improved by building larger schools. Williams testified that if transportation were unchanged a five would be assigned. Pendleton, *supra* note 39, at 125. Thus, the SBA is really using only part of the one-to-nine scale so that transportation, again, has less of an impact on the SBA's overall comparative plan rating. SBA travel time ratings confirm this: of the thirty-eight plans evaluated for 1996, no plans received a seven, eight, or nine for travel; only one received a six, twenty-eight received fives, six received fours, two received threes, and one received a two. SCHOOL BUILDING AUTHORITY, 1996 SBA STAFF REVIEW RATINGS (RAW SCORES), Dec. 11,

When the review team looked, for example, at transportation in Pendleton County (where a mountain separates the school to be closed from the new one to be built with SBA funds), the SBA review team gave transportation a score of 3.[114] In the consolidation hearing the judge asked Williams, "[I]f you had two schools, you would have fives for both of those, right?"[115] Williams responded:

> *Conceptually* I understand what you're saying and that's probably correct. *The way it would work in reality* is that if now we're talking about a consolidated school that has every kid in the county in it, when you look at that relationship, there's only about one percent of the kids total that would have major variations in travel time, so *consequently it doesn't have a lot of impact.*[116]

The Court points out that previous testimony has been that twice as many kids (ten percent) will be on the bus more than 45 minutes.[117] Williams replies, "[W]hen you look at the total number of kids in the county . . . that's a very, very small percentage."[118] The lesson is, with its minimum school size numbers, the SBA cares very much about precise and objective standards. With regard to transportation, ten percent of a county's schoolchildren are the SBA's "very, very small percentage," and the ostensibly objective evaluation is skewed to reflect that.

1995.

[114]*Id.* at 124.

[115]Pendleton, *supra* note 39, at 125.

[116]*Id.* at 125-6, emphasis added.

[117]*Id.* at 126.

[118]*Id.*

D. Have the SBA Economy of Scale Numbers Saved Money?

A full-scale economic analysis is beyond the scope of this article, but some simple figures are instructive. SBA "economy of scale" numbers are based on pupil-teacher ratios. Although a quarter of West Virginia's schools have been closed since 1990,[119] there were 13.45 professional educators per pupil then and in 1995 there were 13.54.[120] Thus, closing a quarter of the schools has made a negligible difference in the targeted "economy" factor. Similarly, in 1990 there were 22.04 students for each service worker (bus drivers, secretaries, janitors, aides), while in 1995 there were 22.02.[121] Major school consolidation has produced no savings in the most expensive budget factor, personnel.

From projects funded to date, the SBA has promised $20,898,049 in annual cost savings, that is monies counties will save *each year* as a result of SBA construction grants.[122] Projected savings compared to school budget deficits for *all counties with deficits* for fiscal year 95 shows[123]

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[119]Howley, *supra* note 38, at 202.

[120]*See* MARGOLIN, *supra* note 52, at T-2, Table 1.

[121]*Id.*

[122]SCHOOL BUILDING AUTHORITY, *supra* note 73, at 6.

[123]Data on projected annual savings from consolidation are taken from SCHOOL BUILDING AUTHORITY, REPORT BEFORE THE SENATE COMMITTEE ON FINANCE 6 (1995). Deficit data is from MARGOLIN, *supra* note 52, T-2, T-4. Sparsely populated counties, *id.* at T-21.

County	Projected Annual Savings From Consolidation	Actual Deficit FY90	Actual Deficit FY95
Braxton†	$ 150,000	$ 0	$ 431,974
Clay†	$ 362,000	$ 45,559	214,171
Grant†	No SBA funding	$ 0	119,799
Harrison	$1,955,598	$ 0	757,689
Lincoln†	No SBA funding	$ 0	200,933
Mingo	$1,241,200	$ 0	3,910,836
Monroe*†	$ 250,000	$ 0	362,573
Nicholas†	$ 200,000	$ 0	314,728
Pendleton†	No SBA funding	$ 0	167,135
Randolph†	$ 281,800	$ 0	526,905
Ritchie†	$ 190,000	$ 0	197,133
Roane†	$ 600,000	$ 0	16,753
Summers†	$ 420,000	$ 0	281,951
Tucker†	$ 00	$ 0	96,759
Webster†	No SBA funding	$ 0	273,826

† Sparsely populated county * Building not finished

Of these counties, Braxton, Harrison, Mingo, Nicholas, Randolph, Ritchie, Roane, Summers and Tucker Counties had no budget deficits before they undertook their consolidation programs.[124] This is not conclusive, but it is suggestive. Not only have the promised savings not materialized, but these counties are, for the first time, running deficits. Part of Randolph and Clay Counties' fiscal problems result from loss of levies defeated following forced consolidation, an additional financial hazard.[125]

Had the SBA looked at any research on the massive national wave of school consolidation in the 1960s and '70s, this lack of savings would have been no surprise. In one study of forty-nine districts, thirty-five promised savings from closing schools, but only

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[124]*See id.*

[125]Telephone interview with Craig Howley, Director ERIC Clearinghouse on Rural Education and Small Schools, Appalachia Educational Laboratory (Oct. 8, 1996).

twelve bothered to calculate them and, of those, eight concluded the closures produced no savings or additional costs.[126] A study of consolidations in all fifty states from 1980 to 1984 found that for "Administration, Instruction, Transportation, Operations and Maintenance, Total Costs, and Capital Projects . . . only Administration . . . indicated a significant . . . savings as a result of consolidation."[127]

Because SBA "minimum size" schools are large, they have been very expensive. The SBA has funded $509 million in school construction since 1990.[128] Seventy-nine percent of that money was spent on seventy-three schools (less than ten percent of the schools in the state) leaving eighteen percent of the money for the remaining ninety percent of the schools. The total $509 million state allocations to SBA projects, though not "counted" in the state education budget, represent capital costs only, not interest.[129] To restate, half a billion dollars has been spent building large schools based on "economy of scale" numbers, and produced no demonstrable savings.

V. LARGE SCHOOLS: NOT ECONOMICAL, BUT PERHAPS MORE COMPREHENSIVE?

Although these projects may not have saved money, additional curriculum is promised

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[126]Valencia, *supra* note 79, at 6.

[127]Administrative costs went up only 10 percent compared to 33 percent in unconsolidated schools. Streifel, *supra* note 78, at 15.

[128]SCHOOL BUILDING AUTHORITY, REPORT TO THE LEGISLATURE OF THE STATE OF WEST VIRGINIA, 3 (1996). Three percent of the money is set aside for statewide projects.

[129]*See id.*

to make these building projects well worth the capital costs (and the deficits).[130] Larger schools do offer more courses than smaller ones.[131] However, research shows that offering more courses is not equivalent to offering a more comprehensive program.[132] A "comprehensive" program includes a base or introductory course, advanced courses for which the base course is a prerequisite, and alternate courses which serve students who are not interested or lack the special talent the subject requires.[133] In an extensive and widely cited study, David Monk examined New York high schools ranging from less than 100 students to larger than 3000.[134] He found that below 400 students, additional students translated into improved student access to courses, but above the 400-student level increases in enrollment made little difference.[135] In terms of curriculum comprehensiveness,

> the case for maintaining secondary enrollment levels at the 400 pupil level is convincing; the case for maintaining secondary enrollment levels beyond 400 is more problematic. In light of this, blanket policies requiring or encouraging school reorganizations that lead to increases in school size regardless of the

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[130]For elementary students, additional curriculum is no benefit. Since there is no evidence of economies intrinsic to larger school size, and no benefit of additional curriculum for elementary students, there are no reasons to insist on enlarging elementary schools, as the SBA is doing. State education law allows ungraded K-2 classes, so that even the SBA's 25 student/teacher rationale for school sizes is totally irrelevant. W. VA. CODE § 18-5-18(c) (1994).

[131]Emil J. Haller et al., *School Size and Program Comprehensiveness: Evidence from High School and Beyond*, 12 Educational Evaluation and Policy Analysis 109 (1990).

[132]David H. Monk, NEW YORK STATE LEGISLATURE, SECONDARY SCHOOL ENROLLMENT AND CURRICULAR COMPREHENSIVENESS 23 (1986).

[133]Haller, *supra* note 131, at 5-6.

[134]*Id.* at 15.

[135]*Id.* at 24-25.

starting point are ill advised.[136]

Following up on Monk's insight, researchers used the High School and Beyond survey data, representative of all public and private high schools in the United States in 1980, to extend the study of curriculum comprehensiveness.[137] Examining science, math and foreign languages and using a more refined notion of comprehensiveness, they found again that "schools that graduate 100 students are probably the equal of much larger institutions."[138] They also found that in larger schools, additional classes "tend to be used to serve the curricular needs of academically talented or college-going students rather than the needs of the less talented or those bound for the workplace."[139]

The SBA arbitrarily insists that high schools must have 800 students, twice the size necessary for a comprehensive curriculum.[140] To achieve that school size, students who attend smaller high schools, students who are generally poorer and more rural, must lose their schools and be bused long distances to the larger school so that affluent children can

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[136]*Id.* at 25.

[137]Haller et al., *supra* note 131, at 5-6.

[138]*Id.* at 16.

[139]*Id.* at 14. Smaller schools would not need to give up such advantages, however, if West Virginia relied more on satellite delivery of advanced classes, but hundreds of millions of dollars are available for large buildings, and no state funding for such technological innovation, which would be far cheaper. Bruce O. Barker, APPALACHIA EDUCATIONAL LABORATORY, INTERACTIVE DISTANCE LEARNING TECHNOLOGIES FOR RURAL AND SMALL SCHOOLS: A RESOURCE GUIDE, Charleston, W. Va. (1987); David Monk, APPALACHIA EDUCATIONAL LABORATORY, USING TECHNOLOGY TO IMPROVE THE CURRICULUM OF SMALL RURAL SCHOOLS, Charleston, W. Va. (1989).

[140]*See* Monk, *supra* note 132; Haller, *supra* note 131.

have a few academic advantages.[141]

VI. Large Schools: Not more Economical or Comprehensive, But perhaps more Thorough?

A. Developing Minds & Bodies

> [A] thorough and efficient system of schools . . . *develops*, as best the state of education expertise allows, the *minds, bodies and social morality* of its charges to prepare them for useful and happy occupations, recreation and citizenship, and does so economically.[142]

Thoroughness reflects educational outcomes: development of mind, body and social morality. The "state of education expertise" has, perhaps, changed most radically regarding school size and educational outcomes since the Supreme Court formulated this standard.[143] In 1964, a study of small Kansas high schools concluded that small high schools offered students greater opportunities to participate in extracurricular activities and to exercise leadership roles.[144] Researchers began to consider other effects of school size on student achievement while taking into account socioeconomic status (SES).[145] Controlling for SES is important because SES is the most influential and consistent factor related to schooling

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[141]*See supra* note 139.

[142]*Pauley*, *supra* note 24, at 877, emphasis added.

[143]Craig Howley, *Synthesis of the effects of school and district size: What research says about achievement in small schools and school districts,* 4 Journal of Rural and Small Schools 2, 3 (1989).

[144]R. Barker & P. Gump, Big school, small school, Stanford University Press, 1964.

[145]Craig B. Howley, Appalachia Educational Laboratory, What is the Effect of Small-Scale Schooling on Student Achievement 1 (1989).

outcomes -- low SES directly relates to poor educational outcomes.[146] Rural areas are generally poor areas and this is especially true in West Virginia, but poverty is not confined to rural areas. In 1995, 46 percent of *all* state school students were receiving free and reduced lunch.[147] Mounting evidence shows that students in low SES communities perform much better in small schools.[148]

A 1996 West Virginia study supports the positive relation, found in many other places, between small schools and improved learning for poor children.[149] Craig Howley looked at school size, achievement (measured by standardized test scores), and SES (measured by school free and reduced lunch recipients) for all schools in West Virginia.[150] Small school size benefitted the achievement of impoverished West Virginia students, while large school size harmed it.[151] This effect was greatest for high school students, suggesting

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[146]W. Fowler & H. Walberg, *School size, characteristics, and outcomes,* 13 Educational Evaluation and Policy Analysis 189, 197-98 (1991).

[147]W. VA. DEP'T OF ED., *supra* note 54. *See* table *infra* at 37.

[148]Craig Howley, *The Academic Effectiveness of Small-Scale Schooling (An Update)*, Appalachia Educational Laboratory, June 1994, 1, *citing* Noah Friedkin & Juan Necochea, *School System Size and Performance: A Contingency Perspective,* 10 Educational Evaluation and Policy Analysis, 237-249 (1988); Mark Fetler, *School Dropout Rates, Academic Performance, Size, and Poverty: Correlates of Educational Reform*, 11 Educational Evaluation and Policy Analysis 109-116 (1989); Gary Huang & Craig Howley, *Mitigating Disadvantage: Effects of Small-Scale Schooling on Students' Achievement in Alaska,* 9 Journal of Research in Rural Education 137-149 (1993); M. Plecki, *The Relationship Between Elementary School Size and Student Achievement*, paper presented at the annual meeting of the American Educational Research Association, Chicago, IL, April 1991; H. Walberg, *District Size and Student Learning,* 21 Education and Urban Society, 154-163 (1989).

[149]Howley, *supra* note 38.

[150]*Id.* at 109-112.

[151]*Id.* at 151.

that larger schools systematically widen the gap between the achievement of impoverished students and the achievement of affluent students.[152] Howley proposes

> that large schools are not just dysfunctional for impoverished students, but that they dramatically compound the educational disadvantages that inevitably threaten impoverished students. They seem actually to harm students who already confront more than their share of threats. Doing no harm, of course, is the key tenet of competent professional practice (citation omitted).[153]

Although consolidation opponents are often characterized as stubborn hayseeds fighting a foolish battle against progress and modernism, the mechanisms that make small schools better for poor students are just those cited by rural residents as they struggle to save their community schools.

> Increased school size has negative effects upon student participation, satisfaction, and attendance, and adversely affects the school climate and a student's ability to identify with the school and its activities. . . . In addition, small schools may be friendlier institutions, capable of involving staff and students psychologically in their educational purposes.[154]

These same factors affect dropout rates: higher dropout rates are associated with larger school enrollments[155].

The absolute bottom line for rural parents, though, is increased transportation to consolidated schools.[156] Urban administrators tend to shrug and minimize the issue. Dr.

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[152]*Id.*

[153]*Id.* at 154-155.

[154]Fowler & Walberg, *supra* note 146, at 200.

[155]Fetler, *supra* note 148, at 113.

[156]Gwendolyn Rae Jones, The Perceptions of Small Rural School Advocates in West Virginia Regarding the Importance of Their Schools, and Their Level of Influence on County and State Boards of Education (1993) (unpublished Ed.D. dissertation, West Virginia University) at 121, 133-5, 175, 262. *See also* table, *infra* at 37, for long elementary student bus times.

Marockie claims it gives kids a chance to socialize that they might not get if they stayed in the rural community.[157] Students, on the other hand, consider time devoted to riding the bus a great waste of physical and intellectual time.[158] Long travel times lower life quality for students and families; they prevent kids' participation in after-school activities, but most important is their negative impact on student achievement.[159] Although students who spend more time on buses tend to come from low-income rural areas, even when SES is held constant, longer bus rides correlate with lower academic achievement.[160] Students suggest that time devoted to travel causes fatigue, so that they are not as willing to put the required time and effort into homework assignments.[161]

Thus, the SBA, by forcing larger schools on West Virginia counties whether they want them or not, adds to the educational distress of poor and rural children, depresses academic achievement, and fails to thoroughly develop these students' minds. Long daily bus rides are exhausting and unhealthy, prevent participation in sports, and so fail to thoroughly develop their bodies. These effects could be undone at one stroke: by keeping and improving small schools which are already in place.

B. Developing Social Morality

The one-large-size-fits-all school that the SBA funds proves neither economical, nor

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[157]Hughes, *supra* note 74, at 44.

[158]Michael Fox, *supra* note 111, at 25.

[159]Yao-Chi Lu & Luther Tweeten, The Impact of Busing on Student Achievement, 4 Growth and Change 44-46 (1973).

[160]*Id.*

[161]Michael Fox, *supra* note 111, at 25-26.

thorough, nor efficient, but there are other costs, social costs, that appear on no balance sheets and are calculated only in poorer lives for citizens who lose their local schools.

All too often school closing proposals are unveiled at the last moment, and although the requisite public hearings are held, the decision has already been made.[162] These hearings give lip-service (or ear-service) to a notion of public input.[163] The local board listens, but it knows what must be done to bring millions of dollars into the county schools: to meet economy of scale numbers, board members must vote to close small schools and build or add on to larger ones.[164] A cynicism has been bred in citizens about their local boards as pawns of the state, about the individual's lack of power over even their local board members, and about the relative unimportance of schoolchildren's education and communities' lives when put in the balance against state money and SBA power[165].

In counties across West Virginia, school closing fights have pitted rural communities against their county seats (where larger schools are usually built) and provided a focus for anti-tax groups to organize against bond or levy support for these unpopular proposals.[166] Residual sentiment against school financial support and lingering anger over bitter political

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[162]Howley, *supra* note 38, at 188.

[163]*See* Second Amended Petition for a Writ of Mandamus, State *ex rel.* H.E. White S.O.S. v. Clay Co. Bd. of Educ., Kanawha Co. No. 95-MISC-912, March 5, 1996 at 5-6.; Aff. of Christopher Prichard, Petition for a Writ of Mandamus, State *ex rel.* Save Harts High School v. Lincoln Co. Bd. of Educ., Kanawha Co. No. 95-MISC-775, Oct. 10, 1995, Ex. 2 at 1-3. *See also* Jones, *supra* note 156, at 141-2, 150, 164-8, 196-7, 213, 231-3.

[164]*See* Jones, *supra* note 156, at 141-2, 150, 164-8, 196-7, 213, 231-3.

[165]Craig Howley, Alan DeYoung, Paul Theobald, *Rural Blues: How middle schools threaten rural communities*, THE AMERICAN SCHOOL BOARD JOURNAL, Aug. 1996, at 43.

[166]Jones, *supra* note 156, at 114, 116-117, 135-136, 188-189, 264-265.

battles have left too many rural counties, virtually powerless before, now sullen and divided.[167]

To urban administrators, moving a school ten or fifteen miles down the road may seem a minor adjustment on the state map, but local schools are the only town hall, gym, polling place, theater, dance hall and recreation center.[168] Poor parents with worn-out cars, welfare mothers with more kids at home, grandparents, and proud neighbors can get to the community school for the talent show or kindergarten graduation, but they cannot get ten or fifteen miles down winding two-lane roads or over mountains.[169] Parental and community involvement in the schools drops precipitously.[170] No balance sheet is kept of such immeasurables, but these systematic blows to education, community, and citizenship cannot be good for social morality of students or the state.

VI. A Proposal

The SBA statute, W. Va. § 18-9D-16, lists eight equal goals to be considered in SBA school funding decisions. These goals have been interpreted arbitrarily and applied inequitably to force large school building, close smaller schools, and make facility funds unavailable for smaller schools. Three simple changes in SBA project evaluations would

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[167]*Id.* at 200-202.

[168]*Id.* at 44, 154-7, 182-5.

[169]Nebo School, a 3-room school in a desperately poor area, still raised $7000/year from fund raisers and had 100% parent participation at PTO. As part of the Clay County consolidation plan, the school was closed and students moved eight miles down Route 16 to Ivydale. Two parents from Nebo have finally been cajoled, after 4 years, to come regularly to the Ivydale PTO. Personal communication from Nancy Updegrave, principal of both schools, Sept. 1996.

[170]*Id.*

change these outcomes.

(1) Discard SBA economy of scale minimum school size requirements, and replace them with sparsity-sensitive economy of scale guidelines for county facility plans.

(2) Discard SBA weighting of the statutory goals so that all eight legislative goals are considered equally in allocating funding.

(3) Discard the SBA invention, "overall SBA rating," so that only statutory goals, not SBA goals, are used.

These straightforward changes would align SBA funding with the relevant law and discontinue the SBA's imposition of its political, cultural, and educational goals in place of the statute. The economy of scale numbers have already reshaped West Virginia's school system: by directing seventy-nine percent of a half billion dollars to seventy-three school projects, the SBA has set its values in bricks and mortar, while failing to give equal attention to the remaining ninety percent of schools not privileged to be chosen.

Beyond discarding the economy of scale minimum school size numbers, West Virginia needs to re-evaluate school facility financing in light of geographic reality and the Recht Decision. Relatively little money will be available for school facilities for the next 30 years while the SBA-incurred debts are repaid. Will small schools inevitably have to close because they have not been maintained under SBA large-school standards, and no more money is forthcoming? Or will West Virginia recognize that its community schools, already scattered throughout its rural areas, can provide the best education along with community and social stability and provide them in an economical, thorough and efficient manner?

WEST VIRGINIA COUNTY SCHOOL DATA[171]

County	Students per Square Mile	% Free & Reduced Lunch	1995 Deficits	% Service Personnel as Bus Operators	% K-4 on bus more than 30 min. one-way
Barbour*†	8.15	67.64		28	38
Berkeley	35.71	36.41		21	25
Boone*	9.91	50.09		19	19
Braxton*†	5.19	57.56	(431,974)	29	23
Brooke*	43.95	33.07		17	38
Cabell	50.00	42.19		15	20
Calhoun*†	5.96	78.13		30	25
Clay*†	6.21	72.55	(214,171)	32	49
Doddridge*	4.35	55.75		30	45
Fayette	13.22	54.88		20	12
Gilmer*	3.84	66.85		34	65
Grant*†	3.95	54.37	(119,799)	27	17
Greenbrier*	6.01	50.10		26	13
Hampshire*	5.21	52.18		33	65
Hancock	56.43	30.66		19	46
Hardy*†	3.38	46.54	(94,360)	29	43
Harrison	29.42	43.88	(757,689)	18	18
Jackson	10.94	43.92		24	23.
Jefferson	31.35	34.46		21	13
Kanawha	36.54	35.82		10	4
Lewis*	7.53	54.02		24	64
Lincoln*	9.96	63.99	(200,993)	22	30
Logan	17.49	50.53		17	33
Marion	29.43	39.31		18	20
Marshall	19.25	48.92		25	17
Mason	10.41	45.09		22	26
Mercer	24.93	50.47		17	4
Mineral	14.57	44.87		26	18
Mingo	16.00	54.83	(3,910,836)	20	17
Monongalia	28.22	33.92		19	5
Monroe*†	4.31	52.56	(362,573)	38	35
Morgan*	9.77	40.95		25	42
McDowell	12.19	78.13		26	2
Nicholas*	7.82	54.09	(314,728)	26	0.8
Ohio	58.20	34.19		15	13
Pendleton*†	2.09	46.10	(167,135)	39	20
Pleasants	10.75	41.32		21	36
Pocahontas*†	1.64	62.20		30	34
Preston*†	8.28	59.75		28	33
Putnam	24.46	31.06		18	23
Raleigh	22.44	47.82		21	17
Randolph*†	4.83	56.112	(516,905)	23	26

[171]Table values are taken from: Sparsely populated counties, MARGOLIN, *supra* note 52, at T-21; Students per square mile, *Id.*; Counties without excess levy, *Id.* at T-22; 1995 deficits, *Id.* at T-29; Percent free and reduced lunch, W. VA. DEP'T OF EDUC., *supra* note 54; Percent service personnel as bus operators, *see* W. VA. DEP'T OF EDUC., W. VA. SCHOOL BUSES AND OPERATORS - 1994-95, MARGOLIN, *supra* note 52, at T-18; Percent K-4 on bus more than 30 min. one-way, *see* W. VA. DEP'T OF EDUC., EXECUTIVE SUMMARY, TRANSPORTATION TIME SURVEY, GRADES K THROUGH 12, at 2.

Ritchie*	4.10	53.72	(197,133)	25	34
Roane*†	6.34	65.19	(16,753)	32	75
Summers*†	5.27	59.77	(281,951)	33	24
Taylor	15.70	52.67		30	20
Tucker*†	3.38	56.25	(95,759)	28	13
Tyler*	6.65	50.20		32	30
Upshur†	12.13	52.48		26	26
Wayne	15.57	44.23		22	40
Webster*†	3.70	75.18	(273,826)	26	28
Wetzel	10.54	43.34		20	29
Wirt*	5.03	56.88		30	38
Wood	39.56	37.24		14	16
Wyoming	11.50	58.92		23	13

* Sparsely populated † Counties without excess levy

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