THE EFFECT OF SCHOOL DISTRICT SIZE UPON SCHOOL COSTS, POLICY RECOMMENDATIONS FOR THE STATE OF NEW YORK.

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WESTERN NEW YORK SCHOOL STUDY COUNCIL, BUFFALO

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THE EFFECT OF SCHOOL DISTRICT SIZE UPON SCHOOL COSTS WAS INVESTIGATED. FINDINGS INDICATED THAT (1) THE SIZE OF THE SCHOOL DISTRICT POPULATION WAS DIRECTLY RELATED TO POTENTIAL EFFICIENCY, (2) VERY SMALL OR VERY LARGE DISTRICTS WERE ADVERSELY AFFECTED BY SIZE, AND (3) DISTRICTS WITH A TOTAL POPULATION BETWEEN 20 AND 50 THOUSAND WERE NOT ADVERSELY AFFECTED. RECOMMENDATIONS WERE THAT (1) GENERAL AID FORMULA CHANGES BE KEPT WITHIN THE SHARED-COST PHILOSOPHY, (2) POORLY ORGANIZED DISTRICTS BE ELIMINATED THROUGH CONSOLIDATION, (3) INTERMEDIATE DISTRICTS BE DEVELOPED, (4) ARTIFICIAL PROPERTY TAX LIMITATIONS IN CITIES BE REMOVED OR ENLARGED, (5) EXISTING DENSITY CORRECTION BE REPLACED WITH THE LINDMAN POPULATION FACTOR, (6) HIGH SCHOOL WEIGHT FACTOR BE REVIEWED, AND (7) SPECIAL AIDS AT 100 PERCENT OF PROGRAM COST BE APPLIED. (HW)
THE EFFECT OF SCHOOL DISTRICT SIZE UPON SCHOOL COSTS

Policy Recommendations for the State of New York

by

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OFFICE OF EDUCATION

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Contents

Preface ................................................................. 5

Chapter

I  The Effect of District Size on School Costs .......... 7

II  Measuring Educational Need in Large Cities ......... 13

III  Measuring Fiscal Ability in Large City School Districts 23

IV  Measuring Educational Need in Rural Areas ......... 33

V  Summary and Recommendations ....................... 41
Preface

The Committee on School Finance and Legislation of the Western New York School Study Council has become increasingly concerned over attempts by various types of school districts to gain special treatment by adjustments to the State's school aid formula on the basis of school district size. These requests, strangely enough, come from small districts, large districts and middle-sized districts. The empirical evidence produced to justify these requests is conflicting. A study recently published by this Committee, "State Aid and School Fiscal Policy" by Eugene C. Samter, concluded that the major source of inequity in the school aid formula was caused by its size corrections.

These efforts constitute a major threat to the educational political coalition. The greatest aid increase is given to the six largest cities. Their aid is increased by 17.5% over what the formula would normally make available to them and they are currently requesting that this be increased to 26.5%. Several school districts which educate more children than Albany, the smallest of the cities now receiving an additional 17.5%, do not qualify for the density correction, but receive instead a less lucrative sparsity correction. These districts are seeking "justice" as are small and middle-sized districts.

Appalled by these developments, the Committee last year called upon the Legislature to refrain from making further alternations in the size corrections in the aid formula until a thorough study could be made of the whole matter. The Legislature, however, did not refrain — thereby compounding already existing inequities by extending a modification of the "sparsity" correction to all districts not receiving a density correction.

The Committee also called upon Austin D. Swanson to review research on the effect of school district size upon school costs and his review is the subject of this monograph. While the views expressed are those of Dr. Swanson and do not necessarily represent those of the Committee, we are pleased to publish this report in the hope that it will clarify the issues involved and lead to a comprehensive review of the use of and justification for the various existing size correction factors. If the integrity of the aid formula is to be protected, it is perfectly obvious that arbitrary grants of funds must be replaced with distribution based on a rational formula which recognizes both need and financial ability.

John C. Broughton
Chairman, Committee on School Finance and Legislation
Western New York School Study Council
CHAPTER I

The Effect of District Size on School Costs

The size of the pupil population of a school district affects its unit cost or efficiency. Four decades of studies have substantiated this relationship.

At first the effect was noted on small school districts. In the days of the one-room schoolhouse it was obvious that the total cost for a district having but five pupils would approximate those of a district having twenty-five. In either case, one teacher and one classroom were needed, making the per pupil cost of the larger district one-fifth of the smaller. As rural districts developed secondary schools, it also became obvious that they could not offer the variety of instructional programs that were offered by larger schools. In order to provide even minimal curricular offerings, the small schools had no choice but to do so in expensive small classes.

State policies were developed to eliminate inadequately organized districts. For those which could not be eliminated the state attempted to compensate for the condition of small size by making more money available to them through “sparsity corrections” in state aid formulas.

More recently it has been noted that very large districts also experience a drop in potential efficiency. Large systems appear to have a rigidity that defies the forces which are so important in shaping the operation of optimal size systems. This factor has been compounded by the social revolution which has taken place since World War II. These systems have inherited the responsibility for educating an abnormally large proportion of the culturally and educationally deprived children of the nation.

The analysis of the big district problem has not been as complete as for the small district problem. Yet their financial need has been obvious and even critical. Without objective evidence to guide their decisions the federal and some state governments, especially New York State, have recently acted to provide at least temporary financial relief to large districts through special aid provisions.

Optimum Size

Studies of the optimum size of school districts are rare. The White House Conference on Education in 1955 suggested that the minimum size of a district should be 40 teachers and 1200 students.
Figure 1.1. Hypothesized Relationship between School System Quality & Community Population.
It was claimed that efficiency continued to increase up to 10,000 students. From a study of a national sample of school districts ranging in community size from 1000 to 1,000,000, Swanson concluded that "the most favorable conditions for achieving good school quality exist in communities from 20,000 to 50,000 in population. Below and above this range, special arrangements are necessary in order to achieve the best possible quality of education." Swanson's hypothesized regression between size and quality is shown in Figure 1.1.* The two conclusions are compatible.

*Chart B on P. 29 of Effective Administrative Strategy.

Politics and the Size Correction

The effect of district size upon cost is in itself a very complex matter, but the attempts to solve the problem have been made more difficult through the use of naked political power to overcome for selected groups of districts the inadequacies of the general state aid formula. Whenever such a formula provides insufficient support to school districts, all sorts of ingenious gimmicks are suggested which will yield additional revenue to the proponents of the gimmicks, but which work to destroy the overall equity of the distribution of state money. The size correction has become a favorite device of gimmickry. There is no greater threat to the educational coalition in New York State than that posed by the question of size correction.

In New York State the integrity of the shared cost formula was destroyed in the year of its adoption with the addition of the arbitrary 10% density correction and the arbitrary 10% sparsity correction. Most of the districts which received financial assistance from these corrections were in need of some kind of help as will be documented in Chapters III and IV, but the correction given was a political, not a rational correction. As a result, these corrections are fraught with inequities and inefficiencies.

In 1965 the financial requests of the large cities of the state were met, not by the rational means they sought, but by increasing their density correction from 10 to 17.5%. Sensing the tide of the times, the large cities have shifted their legislative strategy from seeking rational changes in the formula (as was their strategy through 1965) to seeking further increases in the density correction. Other school districts which educate more children than do some of the six receiving density correction are seeking an extension of this lucrative correction to them on the basis of political arguments.

At the other end of the scale, political pressure was sufficient in 1966 to extend the sparsity correction to all districts not receiving a
density correction. This action would suggest that there is no such thing as optimum district size; a district is either sparse or it is dense.

An analysis by Samter\(^1\) of the New York State school aid formula adopted in 1962 showed that the principal source of inequity was caused by the size correction.\(^4\) The 1962 formula had been allegedly designed to eliminate the privileged treatments received by certain classifications of districts under the previous formula. A continuation of the present trend of arbitrary corrections will rapidly return the state to the chaotic conditions prior to 1962. The time is ripe for a general review of the whole matter.

**Measurement of Educational Need**

There are at least three distinct elements to the controversy. They are:

1. an adequate definition of educational need (discussed in Chapters II and IV);
2. an adequate definition of taxpaying capacity (discussed in Chapter III);
3. stimulation of programs for special groups.

The first two elements properly belong in the discussion. The third element is irrelevant. It has entered the discussion because the mechanics for providing a size correction and the mechanics for providing stimulation of special programs are frequently similar. In each case the adjustment may be made through modifying the unit of educational need. The rationale for each is quite different, however.

The costs of education, even of similar quality, vary from community to community. This condition has made it necessary to develop a quantitative measure of a community’s educational task (or need) so that it can be treated comparably with other communities. A rough measure of a community’s need is the number of children to be educated. However, conditions vary so among communities that it is necessary to consider in the need measure any prevailing condition which affects educational costs appreciably and in differing degrees.\(^2\) The basic unit is typically the per pupil cost of education in grades 1-6.

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One differential condition, the only one fully recognized by the present formula, is that of the number of high school students. On the average in New York State it costs about 25% more to educate a child in grades 7-12 than it does a child in grades 1-6. Converting this fact to units of need, the magnitude of the task to educate an elementary child is 1.00 while the magnitude of the task to educate a second child is 1.25. The current state aid formula weights all students in grades 7-12, 1.25 compared to the 1.00 weighting for students in grades 1-6. It is necessary for such a weighting because this factor is of fiscal consequence and because it does not fall evenly on all districts. An extreme example of the differential effect is the case of the elementary district having all students in grades 1-6 as compared to the high school district having all students in grades 7-12. It would be an unfair distribution of state aid if the elementary district received the same financial considerations as the secondary district because of the difference in the educational task. By weighting high school students 1.25, it is possible to more closely relate the quantity of the need in each community. This is not a special aid. The purpose of the weighting is not to promote high schools. The purpose of the weighting is to measure more accurately the educational need faced by each school district than can be done through merely nose counting.

This points up the difference between a pupil weighting and a special aid.

- Weighting elementary pupil units results in an over all quantitative measure of the educational tasks of communities. It takes into account differential educational costs of fiscal consequence.
- Special aids are aids designed to promote the acceptance of specific educational services by the school districts.

Sparsity is a characteristic of the community. If the same educational offerings are to be provided for the students in sparsely populated areas, it is necessary to offer them in small classes. This requires relatively more staff members per pupil than would be necessary in larger communities. This condition adds to the cost of education and should be taken into account in quantifying the magnitude of the educational task. The adjustment to the basic pupil unit is known as a sparsity correction.

By no stretch of the imagination would one suggest that because the state makes additional monies available to small districts that it is attempting to promote or perpetuate the small school. Rather the state is attempting to provide as good an education for youngsters in small schools as if they lived in more optimal communities.

A similar pattern may take place in very large school districts. The large cities of New York have suggested that certain students be
weighted additionally in computing total community need because they must be enrolled in especially costly programs. These include vocational students, non-English speaking students, the handicapped, and the disturbed. To the extent that such needs have differential effects of fiscal consequence beyond the control of the administration they should qualify for special weighting.

Special aids are of a different nature. They do not arise out of the conditions existing in a community of a particular type, but arise out of the state's desire to promote the adoption of particular services by school districts in general. Aids of this nature would be for adult education, summer school, school lunches, etc.

At this point it is very easy to see why there is confusion over the distinction of special aids and measurement of educational need. Under certain circumstances the weightings requested by the large cities would be considered as necessary corrections in the measurement of educational need and under other circumstances they would be considered as special aids. The cities claim that the need for these costly programs arises out of the nature of the community over which they have no discretionary powers. Others would say that the offering of these special programs is within the discretionary power of the school board. Special attention by the state would stimulate the spread of these programs and would interfere with the discretionary power of the local school board. As such they would be special aids.

In subsequent chapters, an analysis will be made of the impact of community size upon the measurement of educational need and upon community ability to meet these needs financially. The concepts of sparsity and density will be studied separately. Recommendations will be made whereby the state may undertake policies designed to compensate communities affected by these extreme conditions.
CHAPTER II

Measuring Educational Need in Large Cities

The past twenty years have seen a decline in the pre-eminence of the great city school systems throughout the nation. These were the systems which in the 1920's and 30's were the principal innovators in education. They were generally noted for their carefully planned curricula, and most importantly, they were the systems which were able to employ the best of the teaching profession. In those years, many suburban and most rural areas were training grounds for urban school systems. This is no longer the case. The school buildings of the large cities have fallen into disrepair as their curricula have become outmoded. Teachers no longer seek out the large cities, but rather prefer employment in the more educationally-minded suburbs.

The decline in the pre-eminence of the great city school systems has been widely proclaimed. The symptoms have been variously diagnosed and solutions have been prescribed. While the prescribed solutions have differed greatly, they have at least one element in common — they would require substantial increases in school expenditures. The ills of the big city schools are not only of a social and political nature, but are also of a fiscal nature.

Several studies which attempt to come to grips with school fiscal problems have been made recently of the six largest New York State cities. Known as "the Big Six," these cities are Albany, Buffalo, New York City, Rochester, Syracuse, and Yonkers. From these studies, a group of insights have been developed which undoubtedly hold implications for state and local policy concerning the financing of schools.

The evidence derived from recent studies will be examined in this chapter and the next in the light of two hypothesized ills contributing to the financial plight of big cities:

1. The nature of the population in the core city of metropolitan areas requires special educational programs which are more costly than the programs required in other communities of the metropolitan area.

2. The phenomenal growth of municipal costs resulting from the nature of the population, density of the population and the central position of the core city in relation to its metropolitan area has reduced big city ability to meet the fi-
nancial requirements of its schools thereby placing it in greater need of financial support from outside the community than present measures of "ability" would indicate.

The first hypothesis is the subject of this chapter. Hypothesis 2 is the subject of Chapter III.

"The Big Six" have about the same value per pupil of taxable real property as that in their suburbs, however in almost every category of expenditure for educational services, they fall far below suburban per pupil expenditures. Tax rate on full property value for school support, a measure of community effort, is low in these cities. Total and operating expenses per pupil range from $74 below the suburban average to over $200 below. Four of the six cities pay teachers salaries which are competitive with their suburbs, however. Paying such salaries from low overall expenditures has made it necessary to restrict severely the numerical adequacy of their professional staffs (the number of professional personnel per 1000 students). Debt service and capital outlay costs are relatively low in these cities. The amount of assistance received in the form of state aid is unexpectedly low. The city school boards are politically appointed and are fiscally dependent upon the municipal government. The suburban school boards are popularly elected in nonpartisan elections and have taxing powers.

The first impression this description gives is that the big city school districts are districts with average ability whose fiscal performance is well below average. Is this really the case? A question which immediately comes to mind is: Do the traditional units of measure upon which the description is based adequately take account of all conditions existing in big cities which have fiscal implications? Do they reflect a suburban-rural bias?

The unit of educational need on which state aid is distributed is Weighted Average Daily Attendance. This unit is based upon the assumption that the larger the number of students which attend school, the greater is the financial need of that district. It also recognizes that in the case of children attending half-day kindergarten, the costs should be only half of what they are for a full-day program. Therefore, the number of pupils in half-day attendance is "weighted" or multiplied by .5. Likewise, the Weighted Average Daily Attendance unit also recognizes the additional cost of the secondary and special programs by weighting children enrolled in these 25% more heavily than those in the elementary program. The 25% weighting reflects average state experience in financing all aspects of secondary programs. These are the only weightings in the present unit of need. There are certain subprograms within the secondary program which are more costly than the weight provided and there are other sub-
programs which are less costly. A study by the Joint Legislative Committee on School Financing in 1961 of the relationship between elementary and secondary costs led to its recommendation to retain the 1.25 weighting for secondary students.\footnote{Joint Legislative Committee on School Financing. *Legislative Document* (1962 No. 10, "New Formula Proposal & Staff Study." Albany: New York State Legislature, 1962.)} An unpublished study made by Swanson for the Educational Conference Board in 1961 also revealed that the 1.25 weighting accurately described the typical ratio of elementary and secondary costs throughout the state. There is some evidence, however, that this figure may discriminate against the large cities.

The Conference of Large City Boards of Education of New York State would argue that Weighted Average Daily Attendance does not fairly measure the educational needs of the big six cities.\footnote{Conference of Large City Boards of Education of New York State. *An Analysis of the Educational and Financial Needs of Large Cities in New York State.* Buffalo: The Conference, September 1963.} The Board points out that these cities have proportionally larger enrollments in the costly programs for trade and technical education, for the culturally deprived, for the non-English speaking, and for handicapped children. They also point out that there is greater need for summer and evening programs in the large cities. All of these conditions are excluded from special consideration in the WADA need measure. The Conference claims that if appropriate weightings were used for children enrolled in such programs, the computed ability, Full Value/Resident WADA, for the big six cities would be less, qualifying them for more state assistance. If the weightings for computing WADA were revised, it would also reduce their computed expenditure levels and staffing adequacy, revealing these provisions to be even more inadequate.

Table 2.1 reports unpublished data collected by the staff of the Joint Legislative Committee on School Financing concerning estimated current expenses of elementary and secondary programs for five of the six big cities. The second half of the table shows the ratio of the costs of various program to the cost of an educational program in grades kindergarten through six. It will be noted that for the academic program in grades 7-12, the cost in excess of the elementary cost varies from 11% in New York City to 48% in the city of Albany. For vocational programs the differential varies from 57 additional percent in the city of Buffalo to 155 additional percent in the city of Albany. Costs of special programs for the mentally and physically handicapped vary from an additional 99 percent in the city of Buffalo to 277 percent in the city of Yonkers. All programs in grades 7-12 and special programs receive an additional weighting of 25%. under present procedures. Table 2.1 shows that the combined additional cost of these programs over the cost of an elementary program varies
from 18% in the city of New York to 61% in the city of Albany.

These data indicate that vocational education programs and special educational programs in the big cities are indeed more costly than either the regular academic program in high school or the elementary school program, and that the incidence of these costs is such as to raise the total cost ratio between elementary and secondary special programs above the state recognized 1.25 for four of the districts. The higher ratio, however, does not necessarily mean that secondary and special programs pose an abnormally high financial burden upon the cities. A high ratio can be caused by unusually light costs at the elementary level. This is the case for most of the large cities in question.

The elementary programs of these cities are particularly starved financially except in New York City when compared to the state average expenditure for all districts. For the 1959-60 school year, the other five districts were below the state average cost of $483 per pupil with Buffalo being $170 below. When grouped together, expenditures for secondary and special programs including vocational programs are also below the state average except for Albany. The state average cost was $604 per pupil. Once again Buffalo was low, nearly $200 below the state average.

Table 2.1 describes the situation as it is, not as it should be. Several students of the problem claim that school expenditures of big cities would be at least as high as their suburbs if adequate provisions were made for culturally deprived and non-English-speaking children in particular. It is claimed that educational services for these children are unusually expensive. Special financial assistance has been sought in New York State and in other states on these grounds, through the use of additional weightings and other devices.

If weightings are to be extended to factors other than those now recognized, the question arises as to how far they should be extended. In addition to vocational and special programs, it has been suggested from one source or another that weightings be included for non-English-speaking students, culturally deprived students, gifted and talented students, summer school students and adult education students. The list could undoubtedly be expanded.

As far as the large cities are concerned, the two principal “high cost” programs, other than vocational and special programs, are for the non-English-speaking and for the culturally deprived. These cities claim that students in such programs constitute a particularly heavy burden on their school districts. Whether these programs are costly or not depends upon one’s point of reference. They are costly when compared to the normal program provided by most large cities. They are not costly when compared to the normal program found in other metropolitan districts.
TABLE 2.1 Estimated NCE/ADA for Certain Types of Programs in Five Major Cities, 1959-60*

<table>
<thead>
<tr>
<th>City</th>
<th>K-6</th>
<th>Academic 7-12</th>
<th>Vocational</th>
<th>Special</th>
<th>All 7-12 &amp; Special**</th>
<th>Cost/ADA</th>
<th>Ratio of Cost to K-6 Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>K-6</td>
<td>Academic 7-12</td>
<td>Vocational</td>
<td>Special</td>
<td>All 7-12 &amp; Special**</td>
<td>K-6</td>
<td>Academic 7-12</td>
</tr>
<tr>
<td>Albany</td>
<td>387</td>
<td>573</td>
<td>987</td>
<td>1080</td>
<td>825</td>
<td>1.00</td>
<td>1.48</td>
</tr>
<tr>
<td>Buffalo</td>
<td>313</td>
<td>357</td>
<td>492</td>
<td>622</td>
<td>419</td>
<td>1.00</td>
<td>1.14</td>
</tr>
<tr>
<td>New York City</td>
<td>502</td>
<td>558</td>
<td>926</td>
<td>NA</td>
<td>591</td>
<td>1.00</td>
<td>1.11</td>
</tr>
<tr>
<td>Syracuse</td>
<td>412</td>
<td>563</td>
<td>806</td>
<td>913</td>
<td>590</td>
<td>1.00</td>
<td>1.37</td>
</tr>
<tr>
<td>Yonkers</td>
<td>363</td>
<td>465</td>
<td>838</td>
<td>1369</td>
<td>512</td>
<td>1.00</td>
<td>1.28</td>
</tr>
<tr>
<td>State</td>
<td>483</td>
<td>604</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*Source: Unpublished data collected by the Joint Legislative Committee on School Financing.

**Adapted from data supplied by the Committee staff.
Basically, the large cities have not improved their educational services since 1940. This has been documented for New York City with particular care by Columbia University's Institute of Administrative Research.¹ The Western New York School Study Council has conducted several unpublished studies of Buffalo with nearly identical results. Suburban and rural school districts, on the other hand, have made substantial improvements in their services. What the large cities are finding is that when faced with severe handicaps of language and cultural background, students can be educated only through the best in educational know-how. Middle-class, English-speaking youngsters still do respond to the traditional large city offerings as their parents did a generation ago. The shortcomings of large city offerings are not as dramatic for the middle-class group.

This is vividly illustrated by a passage in The Puerto Rican Study, a study of the educational needs of Puerto Rican youngsters in New York City:

What helped Alicia to talk? From the viewpoint of the observer, not one but many things and many people had helped Alicia finally to speak out loud in English. A special period had been set aside to help the children who were learning English. A sympathetic school administration assisted the teacher by encouraging a flexible programming and classroom organization. (Here a second-grade child profited from the use of traffic signals that might otherwise have been considered more suitable for kindergarten). A coordinator had taken time and effort to find appropriate and attractive materials. A curriculum writer had set forth suggestions for developing a fitting and interest-catching program. A language teacher had worked language content to the children's level of attainment and had indicated common difficulties encountered in adapting Spanish to English. Good school-community relations had helped to provide the friendly policeman as an exciting resource person.

All these helped, but none would have been sufficient had the teacher not known how to use them. The teacher's contact with her children was easy and unhurried; her glance was calm and reassuring. Her manner and voice were gentle and she made comforting physical contacts with the children. She was supporting; there was an absence

of threat in her approach to a timid child. One felt that she found it natural and pleasing to be with these children.¹

The Study goes on to suggest, “Recognize that what is done for the non-English-speaking child is, in the long run, done for all children.”² But it is not being done for the handicapped child or the normal child in most large cities. These cities are providing “mass” education while modern pedagogical thought acknowledges that instruction must be adapted to the peculiar requirements of each individual pupil. As the “peculiar requirements” of a child become further removed from the “normal,” the more critical it becomes that he have an individualized program. When faced with severe handicaps of language and cultural background, children can be educated only through the best in educational know-how, facilities, and personnel. Middle-class, English speaking youngsters, however, can be taught, although inefficiently, with the outmoded techniques of mass education, insufficient supplies, facilities, and personnel. Most pupils in the large cities are educationally deprived; however, the critical nature of the situation is more apparent for those pupils with severe handicaps.

The things that helped Alicia talk are the very things that are being attempted as a matter of course for all children in many suburban New York State school districts. These are not special needs of a special group of youngsters. They are normal needs of all youngsters. The class size recommended as maximum (25 ADA in regular mixed classrooms or 22.5 in bilingual classrooms) by The Puerto Rican Study would not be considered to be excessively small in most school districts outside of the large cities.

Buffalo’s School Number 12 is another case in point. This is an “experimental” elementary school serving a culturally deprived neighborhood. The success of this school with its pupils has been carefully documented.³ The nature of the experiment was not radical. It consisted principally of adding to its staff more teachers to reduce class size and specialists such as a librarian, a remedial reading teacher, a music teacher, and an art teacher. The cost per pupil of this “special” program is about equal to the state average expenditure per pupil. But it is nearly $200 per pupil above the program provided for the “normal” Buffalo youngster. By Buffalo standards, this is a costly program. By state standards, it is not.

Essentially what is needed by the large cities to meet the pre-

²Ibid, p. 238
criptions which have been made for their school ills is more and more competent people. The magnitude of the shortage of professional staff in New York State's big six is shown in Table 2.2. Based on normative staffing procedures in the adequately organized school districts of the state, only Albany employs more professionals than would be expected. Rochester is staffed as expected at the district level although its secondary schools are 28 per cent understaffed. New York City is the most understaffed followed closely by Buffalo, Yonkers, and Syracuse. New York City alone would require nearly 8,000 more teachers to bring it to a staffing ratio which is typical for the state.

The Columbia University Study of New York City showed that the City needs not only teachers but also educational specialists. It employs .06 reading specialists per 1000 children compared to an average of .58 for its suburbs belonging to the Metropolitan School Study Council. For other specialists the comparisons are: speech, .08 in the City to .21 in the suburbs; guidance, .48 to 1.01; and librarians, .27 to 1.15. Only for psychologists and psychiatrists did New York City's staffing approach suburban staffing, .41 to .48.1

The line of argument followed in these several paragraphs is not meant to suggest that the program for the culturally-deprived and the non-English-speaking should be no different from the program required for the white, English-speaking, middle-class children. The curricula, the materials used, the division of professional talent will vary according to the special needs of each group. However, these variations are variations in the allocation of resources. It does not follow that a program, because it is different, is necessarily more expensive. The cost of providing programs for non-English-speaking and culturally disadvantaged children should not be substantially greater than for regular programs in the large cities, if the standards of general educational services in these cities were on par with those of the better metropolitan school districts. Therefore the first hypothesis is rejected.

1op. cit., p. 48

20
Table 2.2. Professional Staffing of the Six Major City School Districts Compared With State Norm

<table>
<thead>
<tr>
<th>City</th>
<th>Elementary Staff</th>
<th></th>
<th>Secondary Staff</th>
<th></th>
<th>Total Staff</th>
<th></th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Actual</td>
<td>Predicted</td>
<td>% Short</td>
<td>Actual</td>
<td>Predicted</td>
<td>% Short</td>
</tr>
<tr>
<td>Albany</td>
<td>335</td>
<td>339</td>
<td>1.1</td>
<td>332</td>
<td>284</td>
<td>(14.5)*</td>
</tr>
<tr>
<td>Buffalo</td>
<td>1,541</td>
<td>1,702</td>
<td>10.4</td>
<td>1,337</td>
<td>1,632</td>
<td>22.1</td>
</tr>
<tr>
<td>New York City</td>
<td>21,030</td>
<td>25,918</td>
<td>23.2</td>
<td>20,175</td>
<td>25,912</td>
<td>28.4</td>
</tr>
<tr>
<td>Rochester</td>
<td>1,082</td>
<td>1,024</td>
<td>(5.4)*</td>
<td>767</td>
<td>982</td>
<td>28.0</td>
</tr>
<tr>
<td>Syracuse</td>
<td>670</td>
<td>724</td>
<td>8.1</td>
<td>587</td>
<td>690</td>
<td>17.5</td>
</tr>
<tr>
<td>Yonkers</td>
<td>517</td>
<td>591</td>
<td>14.3</td>
<td>540</td>
<td>652</td>
<td>20.7</td>
</tr>
</tbody>
</table>


*%additional
CHAPTER III

Measuring Fiscal Ability of Large City School Districts

The large city is a relatively new phenomenon to the American scene and we as a society have not fully learned how to live with it. As population density increases, the cost of government appears to increase in a near geometric proportion. As people come closer and closer together and interact with one another more frequently, the need for and the cost of social services appear to increase. The crime rate spirals; new transportation facilities are needed; more complex traffic control equipment and more government personnel are required. The problems of fire protection, waste disposal, garbage and snow removal, even smoke control are compounded and more costly to solve. Street maintenance, water supplies, harbors, docks, and airports all become complicated and yet essential requirements of urban centers. Health centers, educational and religious institutions, government offices, and non-profit social agencies center here, requiring municipal services and yet, for the most part being exempted from municipal taxation.

The big city services an area much larger than its own political boundaries. Its tax base must not only provide for services for its own taxpaying residents but also for persons living in surrounding suburban and rural areas. The big city contains the employment places for the outlying areas. It also contains the wholesale warehouses, the principal retail shopping centers as well as many recreational and cultural facilities.

Tompkins conducted case studies of municipal costs in 14 selected communities ranging in population from under 5,000 to New York City's eight million.1 The widest cost disparities were for protection and sanitation. For protection, village costs per capita ranged from $4.45 to $7.06. The cost in New York City was $40.84. (New York City hires as many policemen and firemen as it does teachers!) Village cost for sanitation ranged from nothing to $1.37. The City paid $14.28. Highway costs were higher in rural areas, ranging from $34 to $52 compared to the City's $12. All other budget categories were from two to over five times as high per capita in New York City as in the villages. The justification of these large municipal costs is not the concern of this chapter; but the effect of these costs upon the fiscal welfare of the public schools in these cities is a major concern.

Table 3.1. Tax Levies Per Capita for School and Municipal Purposes in the Six Major Cities of New York State, 1961

<table>
<thead>
<tr>
<th>City</th>
<th>School Levy/Capita</th>
<th>Municipal Levy*/Capita</th>
<th>Total Levy/Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dollars</td>
<td>% of State Average Levy</td>
<td>Dollars</td>
</tr>
<tr>
<td>Albany</td>
<td>$39.05</td>
<td>57.6%</td>
<td>$88.13</td>
</tr>
<tr>
<td>Buffalo</td>
<td>36.96</td>
<td>54.5%</td>
<td>97.18</td>
</tr>
<tr>
<td>New York City</td>
<td>54.12</td>
<td>79.8%</td>
<td>154.44</td>
</tr>
<tr>
<td>Rochester</td>
<td>59.01</td>
<td>87.0%</td>
<td>86.39</td>
</tr>
<tr>
<td>Syracuse</td>
<td>43.21</td>
<td>63.7%</td>
<td>96.70</td>
</tr>
<tr>
<td>Yonkers</td>
<td>51.17</td>
<td>75.5%</td>
<td>91.20</td>
</tr>
<tr>
<td>New York State —</td>
<td>67.79</td>
<td>100.0%</td>
<td>68.44</td>
</tr>
</tbody>
</table>

1op. cit.

*include tax levies for city, village, town and county purposes.
These conditions lead to a discussion of the second hypothesis raised in Chapter II:

The phenomenal growth of municipal costs resulting from the nature of the population, density of the population and the central position of the core city in relation to its metropolitan area has reduced big city ability to meet the financial requirements of its schools thereby placing it in greater need of financial support from outside the community than present measures of “ability” would indicate.

Table 3.1 shows the tax levies per capita for school and municipal purposes in the six major cities of New York State and for the rest of the state. Except for New York City, the total local tax levy per capita in the Big Six cities is not excessive when compared to the rest of the state. In computing the municipal levy, costs of the county government and of special districts were included as well as costs of the village, town, and city governments. The total tax levy in Albany and Buffalo fall slightly below the state average figure. Rochester, Syracuse, and Yonkers have total tax levies slightly above the state figure. The City of New York and by far the largest city in the state has a tax levy per capita which is 53 per cent greater than that for the balance of the state.

The school and municipal levies show a totally different picture. The city of Buffalo has a school levy which is only 54.5 per cent of the state figure. The city of Rochester comes closest to the state figure; however, this is still only 80 per cent of it. All of the big cities have municipal levies which are well above the costs for the rest of the state. The municipal levies exceed this norm from 26 per cent in the case of Rochester, to 126 per cent in the case of New York City.

These figures indicate that the total tax burden carried by the residents of all the big cities, except New York City, is not out of line with the tax burden carried by the rest of the citizens of New York State; however, it is clearly evident that this tax burden is divided between the school and municipal governments quite differently in the big cities than in the rest of the state. Outside of the big six cities, the total tax levy is divided approximately half and half between the school levy and the municipal levy. In the large cities, schools use anywhere from 29.5 per cent of the local taxing power in New York City, to 40.6 per cent in Rochester.

In the case of New York State’s cities, it is entirely possible that both the levies for school purposes and municipal purposes are artificially low because of restrictive tax limitations. The big six cities have the most stringent property tax limitations of any local government or groups of local governments, as is shown in Table 3.2. These
TABLE 3.2 Constitutional Tax Limits on Real Property for Local Governments

<table>
<thead>
<tr>
<th>Municipal Unit</th>
<th>% Tax Limit for Each Local Jurisdiction</th>
<th>Total Maximum %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>County</td>
<td>City</td>
</tr>
<tr>
<td>New York City</td>
<td>—</td>
<td>2.5</td>
</tr>
<tr>
<td>Big 5 Cities</td>
<td>1.5-2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Other Cities</td>
<td>1.5-2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Towns (outside villages)</td>
<td>1.5-2.0</td>
<td>—</td>
</tr>
<tr>
<td>Villages</td>
<td>1.5-2.0</td>
<td>—</td>
</tr>
</tbody>
</table>
cities are allowed to raise from the taxation of property only 2% of their full valuation for municipal and school purposes. For cities other than the big six in New York State, a potential 2% is allowed for school purposes alone. School districts other than those in cities have no tax limit at all.

New York City is the most severely restricted. It must provide school, city and county services with a tax limit equal to 2.5% of its full property value. Non-property taxes have been made available to city and county government, however, the property tax base remains the principal support of local government, even in New York City which has most fully utilized its non-property sources.

The property tax ceiling has put a lid on governmental expansion in these six cities. The lid apparently has not affected the support of municipal government, which is under political control of the tax levying body; however, it has definitely limited the expansion of school services, which is removed from the direct control of the municipal government. The only city which has approached the state average tax rate for the support of public education is the City of New York. In the case of New York, this has been possible, not by cutting back on municipal costs (which are more than double the non-city costs), but by placing upon its people a substantially greater total tax burden through use of authorized non-property taxes.

New York State distributes funds to school districts on an equalized basis (i.e., monies are distributed in an inverse ratio to the ability of the district to raise tax revenue). Ability is measured by dividing the equalized assessed valuation of a district by its weighted average daily attendance. An unstated assumption in this procedure is that the property tax is equally available to all school districts. Since the big city school districts do not have access to as large a portion of this tax base as do other school districts, as shown in Table 3.1, this procedure overstates their ability and reduces the amount of state monies to which they should be entitled by the logic of the equalization principle. Thus the second hypothesis is accepted.

One of the first recognitions given to this phenomenon of municipal overburden was in the New York State Educational Conference Board's report of September 1, 1961. This report recommended that the valuation of a school district be reduced in proportion to the ratio of its municipal cost to a normative cost figure for the state. It recognized that municipal and school governments draw their financial support from the same tax base, and that when the demands of one of these governments becomes excessive, it reduces the ability of the companion government to draw as freely from the base. The principle of this approach had much appeal; however the proposed formula was

abandoned as having several faults; it would have been virtually impossible to collect the data; it was feared the formula would lead to manipulation of accounts in the fiscally dependent cities; it made no adjustment for the additional governmental services received by residents of high municipal cost communities; and it did not account for variation in efficiency of municipal governments. These shortcomings would tend to make the Conference Board index an overestimation of the actual overburden condition.

A more recent proposal has been put forth by Erick L. Lindman of the University of California at Los Angeles.1 Lindman, in recognizing the shortcomings of the preceding formula, suggests that the overburden be evaluated on a basis which is not subject to the discretion of governmental administrators. He reasons that in the case of school districts, the per cent of state educational costs borne by a district should be roughly in proportion to the per cent of the state’s public school children for which it must provide educational services. Likewise, he suggests that the per cent of the total state’s municipal costs carried by a community should be roughly in proportion to the per cent of the state’s population which it has in residence. He goes on to point out that in the typical community the per cent of the school population and the per cent of the total population which lives within a community should be equal. When the proportion of the total community population is much higher than the proportion of school population, municipal overburden comes into play. This is the condition in all the big cities in New York State and in nearly all the big cities in the United States.

To correct for this condition in state aid equalization formulas, Lindman suggests the following index:

\[
\text{Correction Factor} = \frac{2 \times \% \text{ of the state total public school ADA in school district}}{\% \text{ of the state total population in the school district} + \% \text{ of the state total public school ADA in school district}}
\]

In a district with a normal population distribution the correction factor is equal to 1.000. If a district has a larger percentage of school children than it does population, the correction factor will be more than 1.000 and vice versa. Lindman suggests that the ratio be disregarded above 1.000. Lindman’s formula measures the relative demands of government, not in terms of the cost of the governmental services provided but in terms of the number of persons served by each of these governments. If his formula has a bias, it is a bias of

---

understating the municipal burden, particularly for the largest cities.

The correction for New York City would be computed as follows:

\[
\text{Population Correction } F = \frac{2 \times 35.2}{46.4 + 35.2} = 0.863
\]

Full Value/Res. WADA = $35,200
Corrected Full Value = $35,200 \times 0.863 = $30,378

The corrected full value figure would be used to compute state aid.

Figure 3.1 shows schematically how such a correction would affect New York City. The City would qualify for a population correction factor of 0.863. This would reduce its full property value per resident weighted average daily attendance, the figure on which state aid is computed in New York State, from $35,200 to $30,378. This would serve to increase the amount of state monies distributed to New York City by approximately 24 per cent (nearly $100,000,000 additional annually). A similar correction factor is produced by the formula for Boston, Philadelphia, Pittsburgh, Cleveland, Detroit, Chicago, St. Louis, Denver, San Francisco, Los Angeles, and most other large cities. For other New York State cities the correction factors would be: Albany, 0.769; Buffalo, 0.897; Rochester, 0.914; Syracuse, 0.917; Yonkers, 0.900.

Table 3.3 shows estimates of what the population correction factor adjustments would do to increase both state operating and building aid for these districts. Under provisions of the present formula, the special fiscal difficulties of the large city are recognized through an arbitrary additional 17.5% in operating aid. Larger increases than this would be justified under the Lindman formula for Albany and New York City and smaller increases would be justified for the four other cities.

The Lindman correction holds several advantages over the existing density correction or the previously proposed correction. Unlike the present 17.5% correction, it is based on a reasonable rationale. Unlike the 1961 Conference Board proposal, it is not subject to municipal manipulation; the efficiency of municipal or school government is not an issue; the extent of services rendered by local government is not involved.

As conditions change in the state, the formula automatically will change to meet the new conditions. If the abnormal social conditions in cities are resolved either through urban renewal or redefinition of

Assumed Distribution of School-Municipal Burden

50% School (35.2% of the state's school population) 50% Municipal (46.4% of the state's total population)

43.2% 56.8%

Actual Distribution of School-Municipal Burden

Figure 3.1. Assumed and Actual Distribution of School and Municipal Governments Burdens for New York City
TABLE 3.3. Effect of Lindman Formula on State Aid for the Six Major City School Districts

<table>
<thead>
<tr>
<th>City</th>
<th>Full Value/ WADA 1962-3</th>
<th>Corrected Full Value</th>
<th>Aid Ratio</th>
<th>Corrected Aid Ratio</th>
<th>% Increase in State Aid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albany</td>
<td>$36,904</td>
<td>$28,379</td>
<td>.360*</td>
<td>.487</td>
<td>35.3**</td>
</tr>
<tr>
<td>Buffalo</td>
<td>31,130</td>
<td>27,924</td>
<td>.437</td>
<td>.495</td>
<td>13.3</td>
</tr>
<tr>
<td>New York City</td>
<td>35,200</td>
<td>30,378</td>
<td>.364</td>
<td>.451</td>
<td>23.9</td>
</tr>
<tr>
<td>Rochester</td>
<td>37,960</td>
<td>34,695</td>
<td>.360*</td>
<td>.373</td>
<td>3.6**</td>
</tr>
<tr>
<td>Syracuse</td>
<td>32,221</td>
<td>29,547</td>
<td>.417</td>
<td>.466</td>
<td>11.8</td>
</tr>
<tr>
<td>Yonkers</td>
<td>36,871</td>
<td>33,004</td>
<td>.360*</td>
<td>.403</td>
<td>11.9**</td>
</tr>
</tbody>
</table>

*receive flat grant
**actual formula aid % increase may be slightly less for these districts. % increase in building aid would be greater with the possible exception of Rochester.
political boundaries, the need for the correction would disappear and so would the correction. One disadvantage remains. That is, there would be no guarantee that the additional state aid would go for the support of schools rather than for tax reductions or for increasing municipal services. This could be handled in one of the following ways. The state could depend upon the integrity of the municipal fathers; or, it could decrease any aid received under this provision by the amount of reduction, if any, in local levy for schools—or by the decline in the percentage local revenues for school purposes are of total revenues for all purposes, whichever produces the greater penalty.

This discussion of the Lindman recommendations has centered around the big six cities. There is no reason why this correction could not be applied to any district for which federal census figures are available. The correction would be 1.000 or less, thus disregarded, for most other districts. In a study of the effects of such a correction on New York State counties and cities over 50,000 population, Burke found that of the cities between 50,000 and 125,000 only Troy would be substantially affected.¹

The Lindman formula would provide some financial relief to the big city school systems on a more rational basis than is presently the case. It will not provide all the funds needed. To fully meet their needs, it will be necessary to combine the effects of a population correction factor with increased local revenue through alleviating existing local tax restrictions.

CHAPTER IV

Measuring Educational Need in Rural Areas

The earliest recognition in state school aid formulae that characteristics of a community influence the cost of its educational program came in the form of sparsity corrections. Prior to 1962 this was the only type of size correction in the New York State formula.

The rationale for such a correction was readily apparent during the pre-eminence of the one-room school. Obviously, the expense for such a district would be approximately the same whether it enrolled one child or forty. The major costs were determined, not by the number of pupils, but by the staff and facilities required.

The rationale became less obvious as districts consolidated. By combining smaller units, it was possible to staff more efficiently; but in order to staff more efficiently a new cost was incurred, transportation. Originally, state aid for transportation was looked upon as a type of sparsity correction.

Despite considerable progress in school district reorganization, a sizeable number of districts which do not have enrollments large enough to promote economical fiscal or curricular operation still exist in New York State. In the more remote areas of the state conditions of sparsity cannot be eliminated in the foreseeable future by reorganization. For these districts, the excessive costs caused by small enrollment should continue to be recognized in the state aid program if the educational programs for the children of these districts are not to suffer unduly. The total cost of sparsity corrections is insignificant when compared to the total monies appropriated for education in New York State. To those districts requiring such aid, however, it often means the difference between an adequate educational program and a highly inadequate one.

The classical approach in analyzing sparsity effects is to examine the distributions of all districts on the total number of professional staff members employed (ordinate) and the total number of students in average daily attendance at the elementary level and at the secondary level (abscissa). A line of central tendency is determined for each distribution. The portion of this line passing through the distribution of the adequately organized districts (known as the normative line) is a straight line, which if extended downward passes through the origin of the distribution. The portion of the line of central tendency passing through the area of the smaller districts
ELEMENARY AVERAGE DAILY ATTENDANCE

Figure 4.1. Bivariate Distribution of Teaching Positions in Grades K-6 and Elementary Average Daily Attendance with Line of Central Tendency and Normative Line.
Figure 4.2. Bivariate Distribution of Teaching Positions in Grades 7-12 and Secondary Average Daily Attendance with Line of Central Tendency and Normative Line.
Figure 4.3. Bivariate Distribution of Approved Operating Expenditures and Total Average Daily Attendance.
Table 4.1. Procedure for Correcting Average Daily Attendance for the Effects of Small Enrollments Upon Staffing Requirements in Grades K-6 and Grades 7-12.

<table>
<thead>
<tr>
<th>ADA Group</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td></td>
</tr>
<tr>
<td>1 to 120</td>
<td>Add 30 to ADA</td>
</tr>
<tr>
<td>121 to 150</td>
<td>Add 1 to ADA for each ADA is short of 150</td>
</tr>
<tr>
<td>150 and up</td>
<td>No correction</td>
</tr>
<tr>
<td>Secondary</td>
<td></td>
</tr>
<tr>
<td>0 to 100</td>
<td>Add 30% of ADA to ADA</td>
</tr>
<tr>
<td>101 to 700</td>
<td>Add 1 for each 20 ADA is short of 700</td>
</tr>
<tr>
<td>700 and up</td>
<td>No correction</td>
</tr>
</tbody>
</table>
Table 4.2. Comparisons at Selected ADA Levels of Sparsity Corrections Computed for New York State School Districts in 1943, 1952, 1959 and 1962

<table>
<thead>
<tr>
<th>Item</th>
<th>ADA</th>
<th>% correction</th>
<th>ADA</th>
<th>% correction</th>
<th>ADA</th>
<th>% correction</th>
<th>ADA</th>
<th>% correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Elementary ADA</td>
<td>100</td>
<td>—</td>
<td>200</td>
<td>—</td>
<td>300</td>
<td>—</td>
<td>400</td>
<td>—</td>
</tr>
<tr>
<td>1943 adjustment*</td>
<td>131</td>
<td>31.0</td>
<td>221</td>
<td>10.5</td>
<td>303</td>
<td>1.0</td>
<td>400</td>
<td>0.0</td>
</tr>
<tr>
<td>1952 adjustment**</td>
<td>126</td>
<td>26.4</td>
<td>205</td>
<td>2.5</td>
<td>300</td>
<td>0.0</td>
<td>400</td>
<td>0.0</td>
</tr>
<tr>
<td>1959 adjustment***</td>
<td>109</td>
<td>9.0</td>
<td>209</td>
<td>4.5</td>
<td>309</td>
<td>3.0</td>
<td>400</td>
<td>0.0</td>
</tr>
<tr>
<td>1962 adjustment</td>
<td>130</td>
<td>30.0</td>
<td>200</td>
<td>0.0</td>
<td>300</td>
<td>0.0</td>
<td>400</td>
<td>0.0</td>
</tr>
<tr>
<td>Actual Secondary ADA</td>
<td>100</td>
<td>—</td>
<td>300</td>
<td>—</td>
<td>500</td>
<td>—</td>
<td>700</td>
<td>—</td>
</tr>
<tr>
<td>1943 adjustment*</td>
<td>161</td>
<td>61.0</td>
<td>385</td>
<td>21.7</td>
<td>543</td>
<td>8.6</td>
<td>700</td>
<td>0.0</td>
</tr>
<tr>
<td>1952 adjustment**</td>
<td>149</td>
<td>48.8</td>
<td>340</td>
<td>13.3</td>
<td>525</td>
<td>5.0</td>
<td>700</td>
<td>0.0</td>
</tr>
<tr>
<td>1959 adjustment***</td>
<td>148</td>
<td>48.0</td>
<td>348</td>
<td>16.0</td>
<td>548</td>
<td>9.6</td>
<td>707</td>
<td>1.0</td>
</tr>
<tr>
<td>1962 adjustment</td>
<td>130</td>
<td>30.0</td>
<td>320</td>
<td>6.7</td>
<td>508</td>
<td>1.6</td>
<td>700</td>
<td>0.0</td>
</tr>
</tbody>
</table>


will tend to fall above the normative line, indicating that a proportionately larger number of professional staff members is required by these districts. The sparsity correction is a quantification, in terms of pupil equivalents, of the additional staffing burden carried by these smaller districts. Figure 4.1 shows the distribution and the line of central tendency for these variables at the elementary level for the 1962-3 school year. Figure 4.2 shows the distribution and the line of central tendency for the secondary level. Table 4.1 shows the recommended sparsity corrections for both levels.

Table 4.2 compares these sparsity recommendations with three previous studies using New York State data. An interesting trend is evident. At the elementary level there has been a decline in the needed correction for school districts of 200 Average Daily Attendance and over. At the secondary level there has been a general decline in the needed correction for all Average Daily Attendance categories. Historically it has been found necessary to hire more professional personnel proportionately in small districts than was true in adequately organized districts. The fact that the difference is decreasing does not mean that the smaller districts have reduced their staffing requirements. It indicates that the general staffing provisions of adequately organized districts have increased over the years as they have improved their services while the provisions in the small schools and their services have remained relatively stable. A difference in staffing patterns still remains, however. In the small schools, professional personnel are almost exclusively classroom teachers. In more adequately organized districts, the new personnel are not necessarily classroom teachers, but are more likely specialists such as reading teachers, librarians, guidance counselors, psychologists, music teachers, art teachers, science consultants, etc. While the actual numbers of people employed per unit are becoming proportionately similar regardless of size, there is serious question as to whether the educational benefits received by children in the small districts approach those in the more adequately organized districts. This, however, is a factor which money, at least in reasonable amounts, will not solve. This latter problem can be most satisfactorily resolved through district reorganization.

The “Small School Correction” in the present New York State aid formula cannot be rationally justified other than to say that it is a crude attempt to compensate for the costly effects of sparsity. The correction consists of a 10% increase in operating aid for the first 1500 students in districts. Under any condition, the maximum correction allowed for sparsity is 10%. It will be noted from the recommended adjustments that 10% is totally inadequate for some of the very small districts and that 10% is quite generous for some of the districts at the upper end of the sparsity correction range.
A sparsity correction cannot be justified for districts with more than 1500 WADA.

Interestingly enough, the effects of sparsity cannot be judged, and should not be judged, in terms of expenditure as is done in the current correction. Figure 4.3 shows the distribution and the line of central tendency between Approved Operating Expenditures and Total Average Daily Attendance. It will be noted that only the districts with fewer than 276 students in Total Average Daily Attendance experience appreciably higher operating costs despite the fact that heavier staffing requirements are needed in school districts three times this size. It might seem that if a district had to hire more teachers, its costs would necessarily be higher. This would be true if all other conditions were equal. However, most districts requiring a sparsity correction are rural districts; many are low wealth districts; and many are populated with a preponderance of people having educational expectations below those of a more typical community in the state. As a result, even though they hire more teachers, the pattern is for them to pay lower salaries which bring their over-all costs in line with those of other districts. The lower salaries, however, attract poorer quality teachers further limiting the educational opportunities of the children in these areas. If adjustments continue to be based on operating expenditures, the negative factors operating in these districts will be compounded. The state has a leadership responsibility to prevent this from happening.

The classical treatment of sparsity is adequate for meeting the additional monetary needs of most standard elementary and academic secondary programs. However, as society itself has become more complex, so have the pupil personnel services and the curricular offerings of the schools (especially at the secondary level). These new services and offerings (such as vocational education, education of the exceptional child, curriculum development, inservice teacher training) cannot be provided efficiently by districts previously considered as adequately organized. To overcome the handicaps of this new type of “sparsity,” the intermediate district concept is emerging in the form of Boards of Cooperative Educational Services and Area Centers. This type of district holds great promise for keeping school operation a local function while at the same time giving schools those program advantages to be gained from bigness.

The difficulties caused by phenomenon of sparsity of population may be overcome by using modern technology, new district structures and supplementary money.
CHAPTER V

Summary and Recommendations

Based on the evidence presented in the preceding chapters the following conclusions are drawn:

1. The size of a school district's population has a direct bearing upon its potential efficiency.

2. Some school districts must operate at a sub-optimal level of efficiency because of the size of their student body. Size has a negative effect upon very small districts and upon very large districts. This is a condition over which the school district administration has no control.

3. Some school districts do not suffer from negative effects of size. These appear to be districts with a total population between 20,000 and 50,000 persons.

4. The arbitrary size corrections in the New York State general aid formula constitute a major source of inequity. These need to be replaced with rationally derived corrections.

5. The effect of size upon small districts can best be corrected through adjustments in the need measure (weighted average daily attendance).

6. The effect of size upon very large districts can best be corrected through adjustments in the ability measure (full property value per resident weighted average daily attendance).

It is recommended that the following guidelines be observed as New York State grapples with the problem of handling its size corrections on a more rational basis.

1. Changes in the general state aid formula should be kept within the shared cost philosophy. If the major restriction of the formula, the ceiling on approved operating expenditures, were ameliorated, it would not be necessary for districts to seek special advantage through arbitrary corrections. In the words of Samter:
Conceptually and mechanically, the size corrections were subject to criticism. As reprehensible as they were, however, they only reflected the real source of the inequity—the $500 [now $660] per pupil ceiling on operating expenditures for state sharing. For it was indeed the imposition of this severely restrictive barrier that invited attempts to breach it with rationalized expedients. In a very real sense it may be said that inadequacy led to inequity.1

2. Where practical, inadequately organized districts should be eliminated through consolidation.

3. Where it is necessary for inadequately organized districts to remain, these should receive supplementary state assistance as prescribed in Table 4.1.

4. The development of intermediate districts should be encouraged.

5. The artificial property tax limits in cities should be removed or enlarged so that these cities may have access to their own wealth.

6. The existing density correction should be removed and replaced with the Lindman population correction factor as described in Chapter III.

7. The high school weighting factor of 1.25 should be examined periodically to see if it continues to reflect the average state-wide difference in cost between elementary and secondary programs.

8. Weightings or special aids at 100% of program cost should be applied to pupils enrolled in state mandated high cost programs such as for the mentally and physically handicapped.

9. Weightings should not be given to pupils enrolled in discretionary programs unless the state wishes to promote the expansion of such programs.
