DOCUMENT RESUME

ED 180 092 EA 012 288

AUTHOR McLure, William P.
TITLE Fiscal Needs Factors in Relation to Financing Public Education in Urban, Suburban, and Rural School Systems.
INSTITUTION Tennessee State Dept. of Education, Nashville.
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
PUB DATE 78
NOTE 50p.; Prepared for the Tennessee School Finance Project; For related documents, see EA 012 284-292

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Educational Finance; *Educational Needs; Elementary Secondary Education; Expenditure Per Student; *Financial Needs; *Resource Allocations; Rural Education; School Districts; State Aid; Suburban Schools; Urban Education
IDENTIFIERS Tennessee; *Tennessee School Finance Equity Study Project

ABSTRACT

This report examines comparative data on fiscal need factors critical in equitably financing public education and on factors with varying or unique implications for urban, suburban, and rural school systems in Tennessee. In analyzing the current operating expenditures for 1976-77, expenditures were divided into two components--instructional programs and noninstructional service programs--and converted to weighted pupil unit amounts. The measure of need for instructional expenses consists of four weighting factors--regular classes, vocational education classes, classes for the handicapped, and teacher training and experience. The study is limited to the critical financial factors that enter into the measure of educational need on the expenditure side. Numerous tables are included. (Author/IRT)

Fiscal Needs Factors In Relation To Financing Public Education In Urban, Suburban, and Rural School Systems

by
William P. McLure
Director, Bureau of Educational Research
and Professor of Educational Administration
College of Education
University of Illinois
Urbana, Illinois

For the
Tennessee School Finance Project
State Department of Education
Nashville, Tennessee
1978

FOREWORD

This report is the product of one in a series of studies initiated by the Tennessee School Finance Equity Study Project as part of a detailed review of the State's program for financing the public schools, kindergarten through grade twelve. It examines comparative data on fiscal needs factors critical in equitably financing public education and factors with varying or unique implications among urban, suburban, and rural school systems in Tennessee. Neither the findings, the implications, the conclusions, nor the recommendations are necessarily those supported by the Study Project, the State Department of Education, or the Joint Legislative Committee on Elementary/Secondary School Finance all of whom are cooperating in sponsoring the overall study. This report represents a part of a larger body of knowledge which is being gathered by the Study Project so that viable alternatives can be examined and considered upon their merits. This study along with others conducted for the School Finance Equity Study Project is funded by the U.S. Office of Education, Department of Health, Education and Welfare, under Section 842 of P.L. 93-380. However, the opinions expressed do not necessarily reflect the position or policy of the U.S. Office of Education.

James E. Gibbs
Director
Tennessee School Finance
Equity Study Project

Sam H. Ingram
Commissioner
Tennessee Department
of Education

September, 1978

TENNESSEE SCHOOL FINANCE EQUITY STUDY

PROJECT STAFF

Dr. James E. Gibbs, Director

Dr. Benjamin H. Brown, Jr., Assistant Director

Dr. Frank H. Yates, Jr., Assistant Director

Mrs. Betty W. Long, Editor-Analyst

Mrs. Shirley Patton, Secretary

TENNESSEE JOINT LEGISLATIVE COMMITTEE

ON

ELEMENTARY/SECONDARY SCHOOL FINANCE 1978

Lieutenant Governor John S. Wilder
Ex-Officio

Speaker Ned R. McWherter
Ex-Officio

Representative Bob Davis
Chairman, House Government Operations Committee

Senator Halbert Harvill
Chairman, Senate Education Committee

Representative John T. Bragg
Chairman, House Finance, Ways and Means Committee

Representative Riley C. Darnell
Chairman, Fiscal Review Committee

Senator Leonard Dunavant
Vice-Chairman, Fiscal Review Committee

Senator Douglas Henry
Chairman, Senate Finance, Ways and Means Committee

Representative Donald Hood
House General Welfare Committee

Representative Tom Jensen
House Minority Leader

Representative Frank Lashlee
Chairman, House Education Committee

Senator Anna Belle Clement O'Brien
Secretary, Senate Education Committee

Representative Paul Starnes
House Education Committee, Assistant Superintendent,
Hamilton County Schools

Dr. Sam H. Ingram
Commissioner, Tennessee Department of Education

Mr. John Franklin
Commissioner of Education, City of Chattanooga

Dr. John Freeman
Superintendent, Memphis City Schools

Mr. James Jarrell
Superintendent, Coffee County Schools,
Chairman, Superintendents' Study Council

Mrs. Betty Lis
Chairman, Tennessee Congress of Parents and Teachers

Mr. Hugh T. McDade
Aluminum Company of America, Chairman, Administration
and Policy Committee, Tennessee Board of Education

Mr. James C. Neeley
Superintendent, Claiborne County Schools

Mr. William Osborne
Director of Business, Morristown City Schools

Mrs. Howard Swafford
President, Tennessee School Board Association

Mr. Billy D. Taylor
President, Tennessee Education Association

Mr. J. Howard Warf
Executive Director, Tennessee Organization of
School Superintendents

COMMITTEE STAFF

Dr. Howell W. Todd, Director

Contents

Charts **Page**

Tables | Page

Introduction

This report consists of the following:

1. A review of fiscal needs factors that appear to be critical in equitably financing public education
2. An examination of factors (often) considered to have varying or unique implications among urban, suburban, and rural school systems
3. An examination of available comparative data on these factors among urban, suburban, and rural school systems in Tennessee.

The elements of these needs are treated in the various components of the overall finance study project. Therefore, this analysis is not a substitute for any component but an attempt to put the variable factors of educational need into perspective relative to different types of school systems.

Fiscal needs are determined by educational needs. The latter are to be found in the composite of individuals who comprise the school population. It is becoming clear that the central purpose of the American public schools, perhaps unique among nations, is to provide every individual with an educational opportunity to develop as fully as possible for most effective living.

Parents and school systems diagnose and otherwise come to some operational definition of these needs. Instructional programs and supportive services are designed from professional experience. Available funds are allocated in ways that are presumed to meet the needs of students in the most equitable manner. These human needs, as defined, vary among individuals, and in the aggregate they also vary among school systems. Few school systems have ever had sufficient funds to come close to meeting the needs of every individual. Hence, some of the variation in the actual composition of the resource

allocation is due to the differences in priorities of local officials in using limited amounts of funds. The factors that create uniqueness among school systems may be classified in three forms: (1) The need exists exclusively in one type of school system, (2) The need exists among all types of school systems, but its relative intensity or financial impact is greater in some systems than in others, and (3) The need may exist in the second form but still have a relatively higher intensity in most systems of one type than in the others.

In the next section we shall review briefly some general social and economic factors which affect school systems and in turn give rise to specific factors to be discussed later.

General Social and Economic Factors

The social and economic characteristics of communities largely shape the schools and their financial requirements to meet the needs of students. These characteristics include: (1) size of population, (2) occupational structure, (3) social composition, (4) location relative to other communities, (5) economic conditions, and (6) physical parameters.

Generally, large urban areas have crowded conditions, a high proportion of low income families, a high percentage of decline in population, and increasing density of residential space as evidenced by large housing units and shopping centers. The occupational structures are shifting toward greater proportions of technical and professional types, leaving relatively shrinking labor markets for the unskilled and semi-skilled persons. The urban areas are the recipients of most migrant families moving within the among states.

Many urban areas have (1) a declining local tax base, if not declining rate of growth, (2) high costs of city services, (3) high concentration of,

business and industry with large percentages of the middle and upper income workers residing outside the city, (4) strong union controls with various impacts on the schools, and (5) apparent impacts of inflation that are greater than in other types of communities.

Suburban communities too have unique characteristics. The image of a wealthy "bed-room" community totally dependent on an adjoining city is a rarity. In recent years business and industry have moved to the suburbs and small cities. Suburbs have grown into independent economic communities with in-flow and out-flow or workers. Suburbs have become the recipients of an increasing proportion of migrant families. In many cases the demand for local governmental services has increased relatively fast.

Rural communities also have unique problems. Isolation increases the costs of equivalent services and goods. Many services such as fire protection, seasonal labor needs, and others are limited. While there are many positive advantages of freedom, tranquility, and recreation in rural areas that appeal to many citizens, there are also benign absences of some cultural activities which must be purchased, if at all, through travel to suburbs and cities. Distance and small population, with resulting low economy of scale, increase the unit costs of all services in the rural areas, including the schools, general government, and elements of the private sector as well. Either the costs are increased on a per unit basis or the services are diluted.

General Educational Factors

The schools are part of the community and thus mirror much of the cultural mix. They are the principal institution, though not the sole one, with responsibility for the education of youth. It is important to recognize

the contributions of others such as the home; the church; civic groups; recreational agencies; labor, business, and industrial groups. The writer emphasizes these contributions because there appears to be increasing evidence that the future problems of education may require a far deeper analysis of the potential collaborations of these institutions with the public schools than we have studied in the past.

There are general factors of critical nature that exist in varying intensity among school systems throughout the United States. The most prominent ones which the writer has found with either direct or indirect impact on a state's educational finance system are the following:

1. Concentrations of non-English speaking minorities, with need for special assistance in bi-cultural education to assimilate in the American culture and concomitantly maintain their native culture.
2. Concentrations of migrant groups, with attendant problems in adjustments and the maintenance of continuous educational progress from one school to another.
3. Social disorganization, including family and neighborhood, with serious impact on the behavior and learning of the affected children, and also their impact on other children.
4. Fluctuating enrollments, some increasing but most declining, with serious impact on planning and financing--perhaps most seriously the development of a public psychology of unrealistic contraction of the school's objectives.
5. Concentrations of disproportionate numbers of economically disadvantaged families. This factor is especially serious when coupled with

item 3. Many families are poor--"but don't know it." Their attitudes, interest in and attention to their children go far to instill motivation and effort to overcome real handicaps.

6. Turbulent changes in the local tax bases--wild inflation in price beyond reasonable economic return or use value.

7. Conflict in educational governance:
   - Divisiveness within the educational community
   - Ambiguities between the role of educators and other groups--school boards, lay citizens' groups, and parents in general.
   - Intrusion of special-interest groups which often weaken the constituted authority of school boards and professional staffs.

8. Uncertainties in the federal participation
   - Continuation of funds for established programs (lack of stability)
   - Mandates without funds
   - Incentives to develop new programs, with subsequent withdrawal of funds.

9. Increasing volume and detail of state prescriptions (Some of which originate at the federal level)
   - Undue constrictions on local discretion: policy, administration, and teaching.
   - Undue controls on local taxing and spending

10. Lagging cash flow of funding methods
   - State aids distributed on the principle of reimbursement for the preceding year's operation rather than the current year
   - Delayed receipt of local tax revenues beyond the current fiscal year.

11. Educational productivity plateau--1970's--leveling off of the growth trends in quality and richness during the 1950's and 1960's: science, arts and humanities, vocational-technical fields--and the school curriculum in general.

These factors vary widely in nature. Some of them can be dealt with through adoption of policies and administrative practices. Others provide a basis for development of measures of need for treatment in the schools. The former are outside the scope of analysis in this report. The latter will be discussed in the next section.

Measurement of Educational Need: Examination of the Fiscal Factors

Like Janus there are two faces of equity in the financing of public education. One consists of issues, problems, and procedures on the revenue side to be equitable to taxpayers. This one is outside the scope of this report. The other one is the expenditure side involving measures and procedures to allocate funds to the areas of activity where teaching and learning occur. This face includes the specific factors in the measures of need in state fiscal policy.

Tennessee has a measure of educational need which is in the forefront of progress among states. The general design of the state aid formula is built upon the emerging structure of education to meet the needs of every student to the fullest extent possible within the capability of the system, or the adequacy of financial resources.

To pursue this analysis further it is now necessary to describe the structure of the measure of educational need in Tennessee, the general design of which the writer believes will be adopted in every state within a few years.

The structure of the educational system may be divided into two components, (1) the instructional programs, including teaching and the direct supportive services identifiable with instructional groups, and (2) general non-instructional service programs that cannot be identified feasibly with instructional groups.

Component 1:
Instructional Programs

This component consists of three types of instructional programs: (1) the regular or academic, (2) special education, including a broad range of special needs--handicapping conditions, learning difficultues, behavioral disorders, bilingual, compensatory, and others, and (3) vocational-technical programs.

These three classifications provide flexibility for operating viable instruction for every conceivable grouping of students from pre-first grade through high school. These classes likewise are suitable for developing feasible cost accounting of respective programs, a procedure which the writer understands is being developed in Tennessee.

Expenses for instructional programs are the major part of what is generally called current operating expenses. The remainder which will be mentioned soon consists of all non-instructional service programs, excluding capital facilities. The measure of need is coming to be adopted as a comprehensive weighting of pupil or instructional units according to average cost differentials among programs. Expenses included in program costs are the following: (1) salaries of teachers for respective time spent in a designated program, including substitute teachers, and teacher assistants, (2) academic supportive staff, assigned and prorated: administrators, counselors, librarians, therapists, social workers, psychologists, and other specialists, (3) auxiliary or non-academic staff--clerks, custodians, technicians, (and) (4) instructional supplies.

Component 2:
Non-Instructional Service Programs

This component consists of services that cannot be identified or prorated feasibly to respective instructional programs. They are not amenable to incorporation into unit cost weightings and hence can be treated best as general service programs on a categorical basis. Each category has its own inherent criteria for purposes of estimation, planning, and administration.

The following are the most common programs in this component:

Program	Unit of Need
1. Transportation	
(1) General--Daily Commuting Home to School	Number of Pupils and Pupil/Mileage
(2) Special Purpose	
a. Handicapped Pupils Home to School	Number of Pupils and Pupil/Mileage
b. Regional Centers	Number of Pupils and Pupil/Mileage
2. Food Service	
a. General School Population	The Pupil
b. Special Programs	The Pupil
3. Health Services	Pupil/Program
4. Rehabilitation	Pupil/Program
5. Subsistence - Orphans - Scholarships - Schools for delinquents	Pupil/Program
6. Retirement Systems	Defined Personnel
7. Adult Education	Defined Personnel
8. Community Services	Defined Personnel
9. Capital Facilities - Renovation - New plants and facilities	Pupil Population to be served

The Profile of Financial Support

This section presents an analysis of current operating expenditures for 1976-77 showing the comparison of county school systems with urban-suburban types. Expenditures are divided into the two components described in the preceding section and converted to weighted pupil unit amounts for comparative purposes.

The measure of need for the instructional expenses consists of four fiscal factors: (1) Regular academic grade-level weightings (K-3 = 1.20, 4-6 = 1.00, 7-8 = 1.10, 9 = 1.20, 10-12 = 1.30), (2) Vocational Education (Agriculture = 2.62, Vocational Home Economics = 2.10, Health Occupations = 2.10, Trade and Industrial = 2.48, Related Trade and Industrial = 1.84, Office Occupations = 2.14 and Distributive Education = 2.04). (These weightings include extra costs for students who are part-time in the vocational programs and part-time in academic programs as compared with students who are full-time in academic programs.) (3) A weighting of 1.07 for extra cost of each pupil identified and served in special programs for the handicapped (an average extra cost weighting above the academic weighting), and (4) a teacher factor for training and experience (T & E).

Thus the total measure of instructional need for a school system is expressed as the sum of pupil units in items 1, 2, and 3 multiplied by the T & E factor of the district.

The general non-instructional service expense such as transportation and food service are determined by criteria to meet the needs of pupils served. For comparisons of school systems, both of these types of expenses are shown as amounts per weighted pupil unit. Chart 1 shows the profile of

Current Expenditures Per Weighted Pupil ADA*

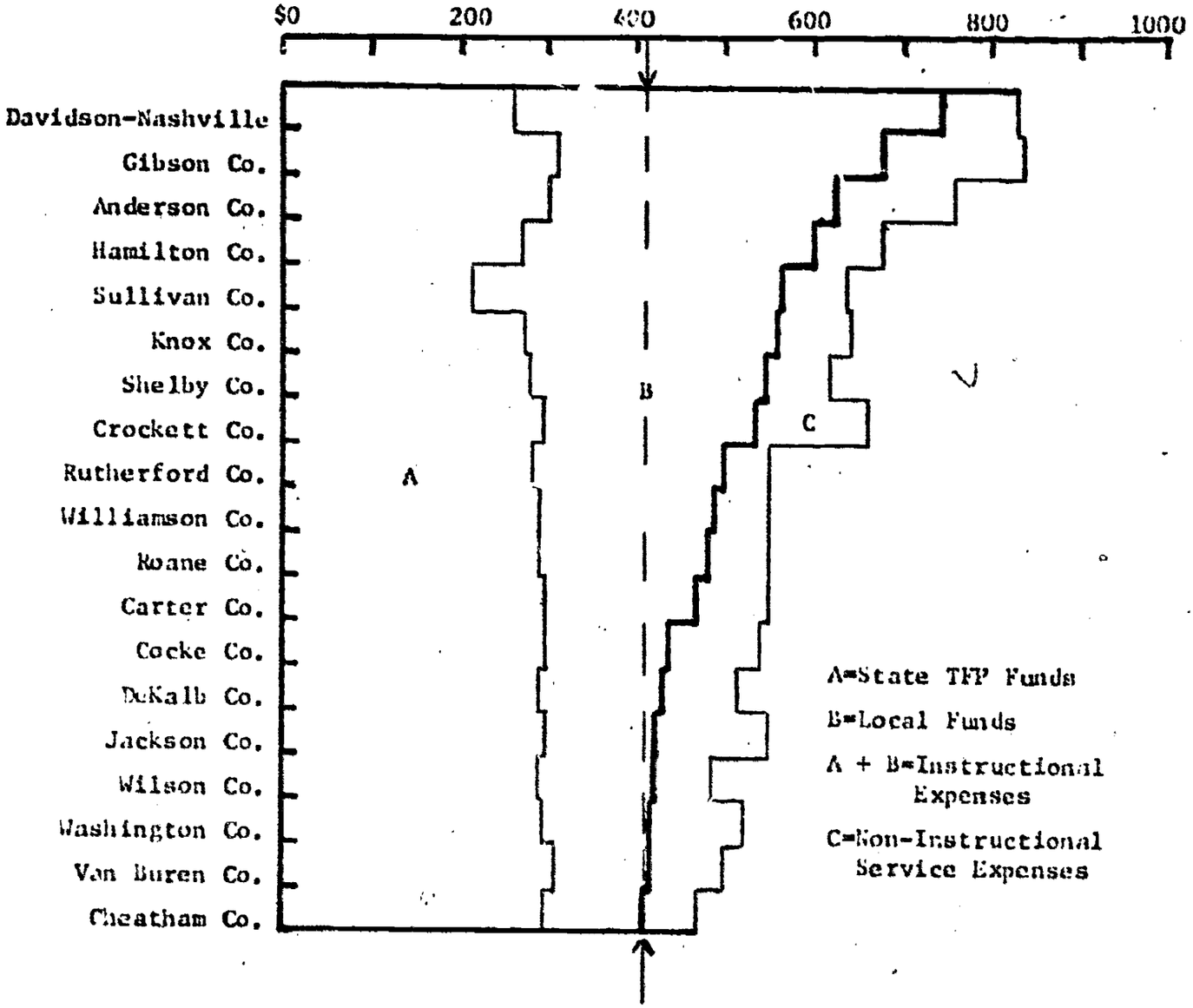

CHART 1: PROFILE OF CURRENT EXPENDITURES

A Sample of County School Systems
1976-77

*Total WFTEADA Multiplied by T & E Factor

a sample of county school systems. Section A shows the amount of state foundation program aid per weighted pupil ADA. Section B shows the amount of local funds per weighted pupil ADA. These two sections show the profile of expenditure per weighted pupil ADA for instructional programs. The third section C shows the amount of non-instructional service expenses per weighted pupil ADA.

Chart 2 shows the profile of a sample of urban-suburban school systems. The arrangement by types of expenses is the same as in Chart 1.

The detailed data for both of these charts are shown in Table 1. In each case the arrangement of school systems on the chart is by descending order of amount of expenditure per weighted pupil ADA. For example, among the counties of this sample the Davidson-Nashville Metro system has $752 per pupil unit as compared with Cheatham County wtih $415 per unit. The ratio of these two is 1.81. In Chart 2 Oak Ridge is highest with $845 per pupil unit as compared with $378 in Watertown, a ratio of 2.24.

Since these samples were drawn to give a fairly representative picture in the state we can proceed to make tentative conclusions pending more complete analysis that will be possible from the major projects of this overall study. These charts give a general picture of the extent of equalization of financial support of educational opportunity among the school systems in Tennessee, under one fundamental assumption. The measure of educational need as expressed in the weighting factors must be equitable. For the moment we shall have to assume that the measure of need as used at present in the Tennessee foundation program formula is equitable.

What is the equalization level of financial support? It is the district with the lowest expenditure per weighted pupil unit. It is Cheatham County

Current Expenditures Per Weighted Pupil ADA*

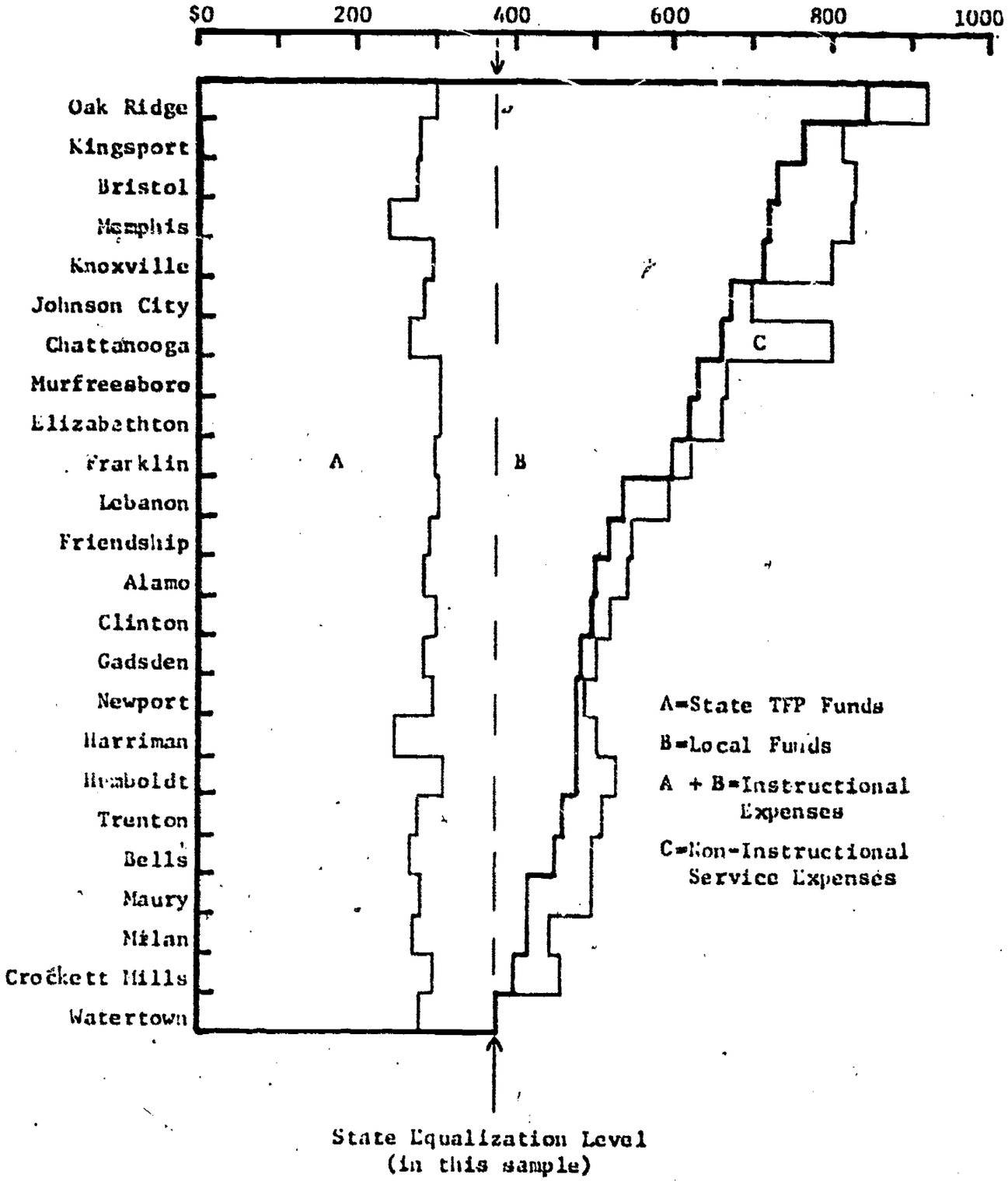

CHART 2: PROFILE OF CURRENT EXPENDITURES

A Sample of Urban-Suburban School Systems
1976-77

*Total WTEADA Multiplied by T & E Factor

Table 1
Distribution of Current Operating Expenditures
-A Sample of Public School Systems-
1976-77

School System	Total Weighted Pupil (ADA) Units*	State TFP Funds Per Weighted ADA	Current Expenditures per Weighted Pupil ADA						
			Instruction**	Non-Instructional Services					
				Transportation	Food Service	Community and Student Services	Adult Education	Total	Percent of Instruction
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Anderson Co.	13,327	$308	$628	$39.00	$90.72	$0.10	$1.18	$131.00	21%
Clinton	1,320	298	494	0	20.00	4.00	0	24.00	5
Oak Ridge	9,200	300	845	3.00	55.00	4.00	16.00	78.00	8
Carter Co.	10,707	298	470	30.00	45.70	0.30	0	76.00	16
Elizabethton	4,381	299	623	10.00	31.00	1.40	2.60	45.00	7
Cheatham Co.	7,014	296	415	32.00	26.00	0.75	0.25	59.00	14
Cocke Co.	7,823	292	439	48.00	52.00	0	2.00	102.00	23
Newport	1,262	294	481	0	24.00	0	0	24.00	5
Crockett Co.	637	300	522	52.00	59.00	0	30.00	141.00	27
Alamo	1,082	285	503	17.00	33.00	0	0	50.00	10
Bells	939	275	451	19.00	28.00	0	0	47.00	10
Crockett Mills	529	297	402	20.00	32.00	0	0	52.00	13
Friendship	444	293	516	36.00	0	0	0	36.00	7
Gadsden	787	281	488	20.00	0	0	0	20.00	4
Maury	896	278	416	34.00	44.00	0	1.00	79.00	19
Davidson-Nashville	120,714	262	752	37.00	25.00	13.00	4.00	79.00	11
DeKalb Co.	3,971	294	428	40.00	43.00	0.50	3.50	87.00	20
Gibson Co.	4,110	313	678	103.00	53.00	1.00	0	157.00	23
Humboldt	4,335	295	476	0.40	39.60	32.00	0	72.00	15
Milan	4,162	292	416	0	28.00	1.00	0	29.00	7
Trenton	2,723	278	464	0	34.00	15.00	0	49.00	11

* Base WFTIADA times T & E Factor
** Total Current Expenditures minus Non-Instructional Service Expenditures

Table 1--continued

School System	Total Weighted Pupil (ADA) Units*	State TFP Funds Per Weighted ADA	Current Expenditures per Weighted Pupil ADA						
			Instruction**	Non-Instructional Services					
				Transportation	Food Service	Community and Student Services	Adult Education	Total	Percent of Instruction
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Hamilton Co.	32,630	$273	$602	$46.00	$21.00	$10.83	$0.17	$78.00	13%
Chattanooga	44,415	272	664	20.00	65.00	42.00	13.00	140.00	21
Jackson Co.	2,631	295	428	55.00	58.00	6.00	5.00	124.00	29
Knox Co.	41,907	274	571	43.00	22.00	0	5.00	70.00	12
Knoxville	46,877	294	714	2.00	36.00	14.00	40.00	92.00	13
Roane Co.	10,802	292	481	30.00	34.00	0	1.00	65.00	14
Harriman	4,246	250	477	10.00	31.00	3.00	5.00	49.00	10
Rutherford Co.	19,936	285	500	31.00	20.00	0	5.00	56.00	11
Murfreesboro	4,315	309	630	8.00	29.00	0	0	37.00	6
Shelby Co.	35,257	277	552	39.00	27.00	0	2.00	68.00	12
Memphis	179,446	239	721	23.00	76.00	0.56	5.44	105.00	15
Sullivan Co.	28,856	215	577	31.00	29.00	0.65	0.35	61.00	11
Bristol	6,988	279	731	2.00	85.00	2.00	12.00	101.00	14
Kingsport	10,091	279	765	15.00	31.00	3.00	2.00	51.00	7
Van Buren Co.	1,428	311	420	41.00	42.00	0	0	83.00	20
Washington Co.	15,064	286	422	31.00	30.00	0	38.00	99.00	23
Johnson City	10,793	286	670	2.00	22.00	4.00	0	28.00	4
Williamson Co.	13,157	289	491	33.00	21.00	1.50	0.50	56.00	11
Franklin	3,371	305	596	0	34.65	0.35	0	35.00	6
Wilson Co.	11,904	286	424	34.00	25.00	1.50	1.50	62.00	15
Lebanon	3,866	299	538	10.00	43.00	0	0	53.00	10
Watertown	574	281	378	0	0	0	0	0	0

with $415 per pupil unit among the counties and Watertown with $378 per pupil unit among the urban-suburban systems.

We must not confuse the true equalization level with the guaranteed equalized foundation program level in a state. In Tennessee the foundation program includes about 10 percent from local funds and 90 percent from state funds. Thus it should be clear from these charts that the combination of all funds for instructional programs is somewhat higher than the state guaranteed foundation program in the lowest districts. It is interesting to note that the state funds, with a few exceptions, are close to a flat grant or equal amount (roughly $250) per weighted pupil unit.

To what extent is the state foundation aid achieving equalization of support that is most directly associated with equality of educational opportunity? To answer this question, assume that all of the funds were the local ones shown in Section B of each chart. The ratio of disparity or difference between the highest and the lowest expenditure level would then be 4.12 among the counties and 5.62 among the urban-suburban. After adding the state foundation funds the ratios drop to 1.81 and 2.24 respectively. The question of how much further reductions should be made to increase the degree of equity is a value decision for the citizens of this state. A prior question of fundamental importance will be, how adequate is the lowest expenditure level?

Now, to return to analysis of the non-instructional service expenditures shown in Component C of Charts 1 and 2. Obviously, these expenses are not proportional to the instructional expenses. In some systems they consist mostly of transportation. There was a time when this service was mainly a

need in rural areas to transport students who lived beyond a reasonable walking distance to school. Today this need exists, but there are additional ones. Some urban areas have traffic hazards; needs for distribution of students for use of facilities, integration, and other reasons that require additional costs often as much proportionally as in some rural areas.

These service costs are quite variable among school systems. If efficiently administered they cannot be viewed as erosions of the resources for instructional needs. Data are not readily available for the writer to sort out the local, state, and federal revenues in these expenditures to show the extent of equalization among school systems.

Transportation is a service that could be equalized most simply and directly by full state funding of allowable costs for basic needs. Others such as food service, community services, and adult education could be funded totally up to defined levels of service from state and federal funds.

Even if these service programs are financed almost totally from state and federal funds, then, the big issues in financing the public schools lie in providing adequate support of instructional programs.

Comparisons of School Systems On Specific Factors in the Tennessee Measure of Educational Need

In the two preceding sections the writer has compared samples of school systems on the general results of the present Tennessee measure of educational need. This section shows comparisons of all systems in the state on the specific factors in the measure of need. Systems are classified as county (mixed rural and urban), urban, suburban, and rural-urban (villages listed in the 1970 Census with population under 2500).

To review briefly, the measure of need for instructional programs in a particular school year is computed as follows:

1. The average daily attendance (ADA of pupils for the highest two months of the first three months in the fall, based on a 6-hour day, weighted for grade levels yields the base full-time equivalent ADA (WFTEADA).
2. To the base WFTEADA extra weightings are added for approved vocational programs and special programs serving handicapped students.
3. A teacher factor (T & E) based on training and experience of professional staff members in each system is then multiplied by the sum of pupil units in step 2. This result gives the total weighted pupil units (Total WFTEADA) of financial need.

County School Systems

Table 2 shows a comparison of County School Systems on: (1) the ratio of extra weightings for vocational and special education to the base WFTEADA, (2) the T & E factors, (3) the ratio of total weighted pupil units to the Base WFTEADA, and (4) the average salary of teachers. These data are critical statistics for comparisons of school systems.

The ratios may be read as percents. For example, in the Anderson County school system vocational education adds an extra cost of 5.4 percent to the Base WFTEADA which represents the regular academic programs. Special education programs add another 22.5 percent.

In the case of weightings for vocational programs, each system was credited with only resident pupils and not those received from other districts. The purpose is to show the relative impact of these programs within each system.

Table 2

Comparison of School Systems

On Measures of Educational Need

1977-78

County School Systems

County	Ratio of Extra Weightings to Base WFTEADA		T & E Factor	Ratio of Total Weighted Units to Base WFTEADA	Average Salary of Teachers
	Voc. Ed.	Spec. Ed.			
(1)	(2)	(3)	(4)	(5)	(6)
1. Anderson	.054	.225	1.159	1.442	$ 9,202
2. Bedford	.053	.118	1.163	1.362	9,168
3. Benton	.082	.153	1.143	1.411	8,828
4. Bledsoe	.062	.158	1.149	1.402	9,069
5. Blount	.053	.141	1.175	1.403	9,336
6. Bradley	.051	.118	1.143	1.337	9,055
7. Campbell	.064	.147	1.167	1.413	9,111
8. Cannon	0	.192	1.152	1.373	8,920
9. Carroll	0	.306	1.142	1.491	8,761
10. Carter	0	.164	1.166	1.357	9,090
11. Cheatham	.036	.113	1.122	1.289	8,762
12. Chester	.037	.061	1.163	1.278	9,098
13. Claiborne	.062	.107	1.165	1.363	9,025
14. Clay	.065	.184	1.145	1.431	9,058
15. Cocke	.052	.112	1.122	1.307	8,713
16. Coffee	.082	.127	1.165	1.409	9,191
17. Crockett	0	.170	1.146	1.341	8,570
18. Cumberland	.029	.133	1.157	1.345	8,996
19. Davidson-Nashville	.024	.147	1.237	1.448	10,072
20. Decatur	.076	.111	1.148	1.364	8,919
21. DeKalb	.078	.087	1.183	1.378	7,260
22. Dickson	.043	.103	1.151	1.319	8,996
23. Dyer	.037	.156	1.141	1.361	8,858
24. Fayette	.061	.102	1.152	1.340	9,084
25. Fentress	.011	.112	1.145	1.287	8,901
26. Franklin	.058	.120	1.154	1.360	9,133
27. Gibson	.063	.146	1.166	1.409	9,135
28. Giles	.003	.101	1.176	1.304	9,173
29. Grainger	.035	.108	1.123	1.284	8,677
30. Greene	.062	.114	1.150	1.353	9,008
31. Grundy	.064	.100	1.119	1.302	8,642
32. Hamblen	0	.112	1.159	1.289	9,105
33. Hamilton	.028	.145	1.176	1.380	9,342
34. Hancock	.084	.120	1.154	1.390	8,842
35. Hardeman	.063	.108	1.159	1.357	9,072
36. Hardin	.058	.083	1.167	1.331	9,160

Table 2 - continued
Comparison of School Systems
On Measures of Educational Need
1977-78
County School Systems

County	Ratio of Extra Weightings to Base WFTEADA		T & E Factor	Ratio of Total Weighted Units to Base WFTEADA	Average Salary of Teachers
	Voc. Ed.	Spec. Ed.			
(1)	(2)	(3)	(4)	(5)	(6)
37. Hawkins	0	.199	1.153	1.382	$ 9,168
38. Haywood	.066	.060	1.173	1.321	9,246
39. Henderson	.073	.132	1.171	1.411	9,204
40. Henry	na	na	na	na	na
41. Hickman	.058	.127	1.156	1.370	9,021
42. Houston	.056	.110	1.156	1.348	8,888
43. Humphreys	.053	.097	1.174	1.351	9,235
44. Jackson	.055	.092	1.161	1.331	8,894
45. Jefferson	.059	.163	1.156	1.413	9,245
46. Johnson	.072	.136	1.133	1.365	8,934
47. Knox	.042	.113	1.160	1.340	9,142
48. Lake	.059	.095	1.158	1.337	9,006
49. Lauderdale	.069	.105	1.144	1.344	8,912
50. Lawrence	.065	.118	1.127	1.333	8,896
51. Lewis	.047	.072	1.133	1.268	8,677
52. Lincoln	0	.172	1.165	1.365	9,174
53. Loudon	.049	.090	1.150	1 310	9,034
54. McMinn	.075	.125	1.165	1.397	9,194
55. McNairy	.063	.080	1.159	1.325	9,028
56. Macon	.055	.142	1.153	1.380	8,882
57. Madison	.072	.081	1.183	1.347	9,269
58. Marion	.038	.128	1.148	1.339	9,012
59. Marshall	.053	.130	1.143	1.353	8,939
60. Maury	.007	.117	1.184	1.332	9,390
61. Meigs	.057	.105	1.132	1.316	8,695
62. Monroe	.063	.116	1.171	1.380	9,127
63. Montgomery-Clarksv.	.051	.155	1.178	1.422	9,296
64. Moore	.053	.126	1.156	1.362	8,869
65. Morgan	.064	.096	1.158	1.346	8,972
66. Obion	.055	.121	1.152	1.354	8,977
67. Overton	.012	.125	1.165	1.324	9,031
68. Perry	.063	.153	1.175	1.436	8,997
69. Pickett	.090	.164	1.206	1.513	9,464
70. Polk	.047	.130	1.167	1.374	9,299
71. Putnam	.037	.141	1.179	1.401	9,247
72. Rhea	.068	.112	1.132	1.336	8,921

Table 2 - continued
Comparison of School Systems
On Measures of Educational Need
1977-78
County School Systems

County	Ratio of Extra Weightings to Base WFTEADA		T & E Factor	Ratio of Total Weighted Units to Base WFTEADA	Average Salary of Teachers
	Voc. Ed.	Spec. Ed.			
(1)	(2)	(3)	(4)	(5)	(6)
73. Roane	.054	.134	1.172	1.392	$ 9,177
74. Robertson	.040	.143	1.163	1.376	9,121
75. Rutherford	.057	.086	1.190	1.360	9,504
76. Scott	.060	.142	1.166	1.402	9,075
77. Sequatchie	.063	.152	1.149	1.395	9,050
78. Sevier	.055	.113	1.132	1.322	8,955
79. Shelby	.055	.121	1.179	1.372	9,350
80. Smith	.0	.105	1.144	1.264	8,974
81. Stewart	.009	.108	1.153	1.288	9,028
82. Sullivan	.028	.099	1.172	1.321	9,321
83. Sumner	.054	.108	1.147	1.333	9,068
84. Tipton	.005	.087	1.135	1.239	8,908
85. Trousdale	.002	.070	1.140	1.222	8,732
86. Unicoi	.063	.142	1.162	1.399	9,211
87. Union	.068	.151	1.139	1.388	8,870
88. Van Buren	.054	.103	1.167	1.350	8,870
89. Warren	.054	.098	1.176	1.355	9,331
90. Washington	.051	.111	1.174	1.364	9,241
91. Wayne	.063	.106	1.136	1.332	8,871
92. Weakley	.060	.117	1.169	1.376	9,238
93. White	.059	.121	1.159	1.367	9,078
94. Williamson	.044	.099	1.162	1.330	9,205
95. Wilson	.053	.102	1.146	1.324	8,969
Mean	.048	.124	1.157	1.356	9,034
Median	.055	.118	1.158	1.355	9,052
Range	0-.090	.060-.306	1.119-1.237	1.222-1.513	7,260-10,072

However, since the "received" pupils cannot be identified with their resident systems there are some omissions, probably most of which are in the systems shown with zero (0) weightings. The range is from 0.2 percent to 9.0 percent for those with weightings, and a median of 5.5 percent. This range among systems is substantial.

The differences in relative amounts of extra costs for special education are much larger than those for vocational programs. The range is from 6.0 percent to 30.6 percent, with a median of 11.8 percent or twice that of vocational programs. The other factors also vary substantially. But perhaps they can be viewed better in comparison with other types of systems.

Urban School Systems

Table 3 shows the same factors as in Table 2 for the urban systems. These districts appear to put less emphasis on vocational programs than the county systems, and slightly more on special education. Their teachers have slightly higher average training and experience. These factors result in an overall median ratio of total weighted units to the Base WFTEADA of 1.355 in the county systems and 1.414 in the urban systems. In other words these financial factors reflect a median extra cost added to the base academic programs of 35.5 percent and 41.4 percent respectively.

Suburban School Systems

Table 4 shows the same data for six suburban systems as shown in Tables 2 and 3. There are too few systems for generalization but they are lowest on vocational education and above the median of the urban districts on special education, but below the median on the T & E factor.

Table 3

Comparison of School Systems

On Measures of Educational Need

1977-78

Urban School Systems

County Community	Ratio of Extra Weightings to Base WFTEADA		T & E Factor	Ratio of Total Weighted Units to Base WFTEADA	Average Salary of Teachers
	Voc. Ed.	Spec. Ed.			
(1)	(2)	(3)	(4)	(5)	(6)
Bradley					
1. Cleveland	.015	.129	1.188	1.359	$ 9,616
Carroll					
2. Huntingdon	.047	.181	1.165	1.431	9,113
3. McKenzie	.049	.179	1.181	1.458	9,321
Carter					
4. Elizabethton	.090	.069	1.186	1.375	9,541
Cocke					
5. Newport	0	.264	1.159	1.465	9,114
Coffee					
6. Manchester	.004	.172	1.196	1.407	9,486
7. Tullahoma	.070	.231	1.190	1.549	9,562
Dyer					
8. Dyersburg	.062	.240	1.167	1.519	9,152
Gibson					
9. Humboldt	.047	.145	1.161	1.383	9,141
10. Milan	. 76	.157	1.210	1.492	9,538
11. Trenton	.048	.124	1.162	1.374	9,153
Greene					
12. Greeneville	.035	.227	1.190	1.502	9,750
Hamblen					
13. Morristown	.078	.091	1.197	1.420	9,697
Hamilton					
14. Chattanooga	.015	.166	1.187	1.402	9,487
Hawkins					
15. Rogersville	0	.185	1.153	1.420	9,356
Henderson					
16. Lexington	0	.095	1.200	1.314	9,501
Henry					
17. Paris	0	.141	1.197	1.366	9,441
Knox					
18. Knoxville	.045	.178	1.181	1.395	9,543

Table 3 - continued
Comparison of School Systems
On Measures of Educational Need
1977-78
Urban School Systems

County Community	Ratio of Extra Weightings to Base WFTEADA		T & E Factor	Ratio of Total Weighted Units to Base WFTEADA	Average Salary of Teachers
	Voc. Ed.	Spec.Ed.			
(1)	(2)	(3)	(4)	(5)	(6)
Lincoln					
19. Fayetteville	0	.137	1.236	1.404	$ 9,792
Loudon					
20. Lenoir City	.076	.093	1.176	1.375	9,371
McMinn					
21. Athens	0	.236	1.181	1.460	9,377
22. Etowah	0	.121	1.192	1.337	9,567
Madison					
23. Jackson	0	.099	1.214	1.334	9,712
Monroe					
24. Sweetwater	0	.093	1.163	1.271	9,051
Obion					
25. Union City	.035	.113	1.175	1.349	9,215
Rhea					
26. Dayton	0	.179	1.147	1.352	9,065
Roane					
27. Harriman	.038	.280	1.173	1.546	9,443
Rutherford					
28. Murfreesboro	0	.095	1.205	1.320	9,532
Scott					
29. Oneida	.049	.064	1.177	1.310	9,241
Shelby					
30. Memphis	.040	.141	1.206	1.424	9,743
Sullivan					
31. Bristol	.026	.171	1.181	1.413	9,638
32. Kingsport	.038	.206	1.207	1.500	10,046
Tipton					
33. Covington	0	.244	1.158	1.441	9,208
Washington					
34. Johnson City	.057	.144	1.181	1.419	9,675
Williamson					
35. Franklin	0	.103	1.174	1.296	9,449
Mean	.030	.157	1.184	1.405	9,464
Median	.030	.146	1.185	1.414	9,486
Range	0 - .090	.064-.280	1.147-1.237	1.271-1.549	9,051-10,046

Table 4

Comparison of School Systems

On Measures of Educational Need

1977-78

Suburban School Systems

County Community	Ratio of Extra Weightings to Base WFTEADA Voc. Ed.	 Spec. Ed.	T & E Factor	Ratio of Total Weighted Units to Base WFTEADA	Average Salary of Teachers
(1)	(2)	(3)	(4)	(5)	(6)
Anderson					
1. Clinton	0	.238	1.159	1.435	$ 9,113
2. Oak Ridge	.040	.155	1.221	1.460	9,995
Blount					
3. Alcoa	.025	.202	1.216	1.491	9,953
4. Maryville	.034	.186	1.181	1.441	9,473
Wilson					
5. Lebanon	0	.116	1.151	1.285	9,058
6. Watertown	0	.164	1.078	1.256	8,403
Mean	.016	.177	1.167	1.395	9,332
Median	.012	.175	1.170	1.438	9,293
Range	0 - .040	.116- .238	1.078- 1.221	1.256- 1.491	8,403- 9,995

Rural-Urban School Systems

Table 5 shows similar data of the three preceding tables for small isolated villages defined here as rural-urban. The relative cost of vocational programs is the highest of all types of districts, but these statistics do not reflect either the breadth of programs or the proportions of students being served. Special education has a median extra cost factor equal to the county systems but a much narrower range. The T & E factor falls within the limits of the urban and suburban systems, not uniquely different. Teachers' salaries closely correspond to the T & E factors.

Comparison of School Systems
On Weighted and Unweighted Pupil Units

A summary of the critical weighting factors in the Tennessee financial system are shown for the four types of school systems in Tables 6, 7, 8, and 9 for 1977-78. All of the weighting factors are applied to the average of the two highest months of ADA (Column 2) in the fall of 1977 to yield the total WFTEADA as shown in Column 3. Column 4 shows the ratio of the latter to the former. For example, for Anderson the ratio is 1.671. This means that all of the weightings times the T & E factor result in 67.1 percent increase in the full-time equivalent pupils in ADA. This ratio is one of the most significant statistics in all of these data for comparing the relative needs of school systems for instructional costs. The other one, shown earlier for samples of systems, is the expenditure level per pupil unit.

The ranges of this ratio vary from 1.411 to 1.749 in the county systems, 1.413 to 1.805 in the urban systems, 1.371 to 1.733 in the suburban systems, to 1.429 to 1.800 in the rural-urban systems. The medians respectively are

Table 5

Comparison of School Systems
On Measures of Educational Need
1977-78

Rural-Urban School Systems
(Population under 2,500)

County / Community	Ratio of Extra Weightings to Base WFTEADA		T & E Factor	Ratio of Total Weighted Units to Base WFTEADA	Average Salary of Teachers
	Voc. Ed.	Spec. Ed.			
(1)	(2)	(3)	(4)	(5)	(6)
Carroll					
1. Atwood	.042	.181	1.126	1.378	$ 8,776
2. Hollow Rock-Bruceton	.047	.117	1.158	1.349	9,043
3. S. Carroll Co.	.119	.169	1.150	1.482	9,208
4. Trezevant	.106	.158	1.209	1.529	9,649
Crockett					
5. Alamo	.068	.163	1.154	1.342	9,166
6. Bells	.086	.092	1.231	1.451	9,172
7. Crockett Mills	.103	.087	1.117	1.330	8,785
8. Friendship	.039	.093	1.114	1.262	8,752
9. Gadsden	.094	.097	1.133	1.350	8,935
10. Maury City	.076	.125	1.144	1.375	8,904
Gibson					
11. Bradford	.019	.112	1.184	1.339	9,249
Marion					
12. Richard City	0	.099	1.115	1.296	9,101
Mean	.067	.124	1.153	1.374	9,062
Median	.068	.118	1.147	1.350	9,072
Range	0 - .119	.087-.181	1.114-1.231	1.262-1.529	8,752-9,649

Table 6

Comparison of Weighted
and Unweighted Pupil Units
- County School Systems -
1977-78

	County	ADA	Total WFTEADA	Ratio
	(1)	(2)	(3)	(4)
1.	Anderson	7,976	13,327	1.671
2.	Bedford	5,437	8,545	1.572
3.	Benton	2,859	4,655	1.628
4.	Bledsoe	1,741	2,818	1.619
5.	Blount	10,668	17,312	1.623
6.	Bradley	9,346	14,456	1.547
7.	Campbell	7,800	12,720	1.631
8.	Cannon	1,869	2,968	1.588
9.	Carroll	411	677	1.647
10.	Carter	6,868	10,707	1.559
11.	Cheatham	4,699	7,014	1.493
12.	Chester	2,340	3,456	1.477
13.	Claiborne	5,606	8,788	1.568
14.	Clay	1,447	2,396	1.656
15.	Cocke	5,164	7,823	1.515
16.	Coffee	3,324	5,508	1.657
17.	Crockett	421	637	1.513
18.	Cumberland	5,867	9,096	1.550
19.	Davidson-Nashville	71,571	120,714	1.687
20.	Decatur	1,968	3,110	1.580
21.	DeKalb	2,498	3,971	1.590
22.	Dickson	6,166	9,399	1.524
23.	Dyer	3,697	5,721	1.547
24.	Fayette	5,483	8,484	1.547
25.	Fentress	2,767	4,013	1.450
26.	Franklin	6,085	9,592	1.576
27.	Gibson	2,523	4,110	1.629
28.	Giles	4,691	7,091	1.512
29.	Grainger	3,219	4,745	1.474
30.	Greene	7,600	11,893	1.565
31.	Grundy	2,470	3,726	1.509
32.	Hamblen	4,508	6,464	1.434
33.	Hamilton	20,398	32,630	1.600
34.	Hancock	1,392	2,368	1.701
35.	Hardeman	5,378	8,441	1.570
36.	Hardin	4,244	6,501	1.532

Table 6 - continued
Comparison of Weighted
and Unweighted Pupil Units
- County School Systems -
1977-78

	County	ADA	Total WFTEADA	Ratio
	(1)	(2)	(3)	(4)
37.	Hawkins	7,673	12,254	1.597
38.	Haywood	4,609	7,050	1.530
39.	Henderson	3,347	5,494	1.641
40.	Henry	-	-	-
41.	Hickman	2,842	4,474	1.574
42.	Houston	1,444	2,262	1.566
43.	Humphreys	3,532	5,532	1.566
44.	Jackson	1,716	2,631	1.533
45.	Jefferson	5,868	9,574	1.632
46.	Johnson	2,599	4,090	1.574
47.	Knox	26,924	41,907	1.556
48.	Lake	1,644	2,533	1.541
49.	Lauderdale	5,257	8,173	1.555
50.	Lawrence	6,962	10,740	1.543
51.	Lewis	1,688	2,478	1.468
52.	Lincoln	4,536	7,230	1.594
53.	Loudon	3,764	5,635	1.497
54.	McMinn	6,407	10,457	1.632
55.	McNairy	4,391	6,759	1.539
56.	Macon	2,731	4,320	1.582
57.	Madison	7,151	11,204	1.567
58.	Marion	5,045	7,779	1.542
59.	Marshall	3,645	5,690	1.561
60.	Maury	10,065	15,454	1.535
61.	Meigs	1,605	2,434	1.517
62.	Monroe	4,610	7,394	1.604
63.	Montgomery-Clarksv.	14,556	24,134	1.658
64.	Moore	835	1,320	1.581
65.	Morgan	3,514	5,481	1.560
66.	Obion	4,927	7,710	1.565
67.	Overton	3,444	5,369	1.559
68.	Perry	1,115	1,841	1.651
69.	Pickett	769	1,345	1.749
70.	Polk	2,867	4,544	1.585
71.	Putnam	7,848	12,717	1.620
72.	Rhea	4,005	6,214	1.552

Table 6 - continued
Comparison of Weighted
and Unweighted Pupil Units
- County School Systems -
1977-78

	County	ADA	Total WFTEADA	Ratio
	(1)	(2)	(3)	(4)
73.	Roane	6,692	10,802	1.614
74.	Robertson	7,198	11,447	1.590
75.	Rutherford	12,548	19,936	1.589
76.	Scott	2,865	4,617	1.612
77.	Sequatchie	1,871	3,017	1.613
78.	Sevier	7,521	11,483	1.527
79.	Shelby	22,205	35,257	1.588
80.	Smith	2,827	4,121	1.458
81.	Stewart	1,688	2,510	1.487
82.	Sullivan	18,891	28,856	1.527
83.	Sumner	17,696	27,289	1.542
84.	Tipton	6,139	8,836	1.439
85.	Trousdale	1,131	1,596	1.411
86.	Unicoi	3,236	5,248	1.622
87.	Union	2,320	3,696	1.593
88.	Van Buren	911	1,428	1.568
89.	Warren	6,543	10,229	1.563
90.	Washington	9,551	15,064	1.577
91.	Wayne	3,068	4,725	1.540
92.	Weakley	5,466	8,728	1.597
93.	White	3,918	6,162	1.573
94.	Williamson	8,494	13,157	1.549
95.	Wilson	7,680	11,904	1.550
	Mean	6,116	9,683	1.568
	Median	4,450	6,630	1.568
	Range	411 - 71,571	637 - 120,714	1.411 - 1.749

Note:

Total WFTEADA = WFTEADA times the T & E Factor.

Ratio = Col. 3 divided by Col. 2. The fractional increase can be interpreted as the percent of the base ADA that is increased by all weighting factors. For example: The base ADA of the Anderson County School System is increased 67.1% by pupil weightings and the T & E Factor.

Table 7

Comparison of Weighted
and Unweighted Pupil Units
- Urban-School Systems -
1977-78

County Community	ADA	Total WFTEADA	Ratio
(1)	(2)	(3)	(4)
Bradley			
1. Cleveland	3,975	6,230	1.567
Carroll			
2. Huntingdon	1,588	2,625	1.653
3. McKenzie	1,477	2,489	1.685
Carter			
4. Elizabethton	2,704	4,381	1.620
Cocke			
5. Newport	774	1,262	1.630
Coffee			
6. Manchester	1,328	2,103	1.584
7. Tullahoma	3,401	6,140	1.805
Dyer			
8. Dyersburg	3,436	6,120	1.781
Gibson			
9. Humboldt	2,699	4,335	1.606
10. Milan	2,395	4,162	1.738
11. Trenton	1,716	2,723	1.587
Greene			
12. Greeneville	2,982	5,212	1.748
Hamblen			
13. Morristown	5,557	9,371	1.686
Hamilton			
14. Chattanooga	27,322	44,415	1.626
Hawkins			
15. Rogersville	612	960	1.569
Henderson			
16. Lexington	855	1,247	1.458
Henry			
17. Paris	1,325	2,015	1.521
Knox			
18. Knoxville	28,922	46,877	1.621
Lincoln			
19. Fayetteville	1,024	1,614	1.576

Table 7 - continued
Comparison of Weighted
and Unweighted Pupil Units
- Urban School Systems -
1977-78

County Community	ADA	Total WFTEADA	Ratio
(1)	(2)	(3)	(4)
Loudon			
20. Lenoir City	1,841	3,014	1.637
McMinn			
21. Athens	1,785	2,914	1.632
22. Etowah	422	631	1.495
Madison			
23. Jackson	6,658	10,332	1.552
Monroe			
24. Sweetwater	1,292	1,826	1.413
Obion			
25. Union City	2,120	3,306	1.559
Rhea			
26. Dayton	668	999	1.496
Roane			
27. Harriman	2,362	4,246	1.798
Rutherford			
28. Murfreesboro	2,923	4,315	1.476
Scott			
29. Oneida	1,441	2,180	1.513
Shelby			
30. Memphis	108,920	179,446	1.648
Sullivan			
31. Bristol	4,275	6,988	1.635
32. Kingsport	5,782	10,091	1.745
Tipton			
33. Covington	919	1,468	1.597
Washington			
34. Johnson City	6,568	10,793	1.643
Williamson			
35. Franklin	2,316	3,371	1.456
Mean	6,982	11,434	1.610
Median	2,316	3,371	1.620
Range	422 - 108,920	631 - 179,446	1.413 - 1.805

Table 8

Comparison of Weighted
and Unweighted Pupil Units
- Suburban School Systems -
1977-78

County Community	ADA	Total WFTEADA	Ratio
(1)	(2)	(3)	(4)
Anderson			
1. Clinton	821	1,320	1.608
2. Oak Ridge	5,389	9,200	1.707
Blount			
3. Alcoa	1,342	2,326	1.733
4. Maryville	2,946	4,038	1.371
Wilson			
5. Lebanon	2,711	3,866	1.426
6. Watertown	405	574	1.417
Mean	2,269	3,554	1.544
Median	2,027	3,096	1.517
Range	405 - 5,389	574 - 9,200	1.371 - 1.733

Table 9

Comparison of Weighted
and Unweighted Pupil Units
- Rural-Urban School Systems -
(Population under 2,500)
1977-78

County Community	ADA	Total WFTEADA	Ratio
(1)	(2)	(3)	(4)
Carroll			
1. Atwood	441	706	1.601
2. Hollow Rock	975	1,523	1.562
3. S. Carroll Co.	441	759	1.721
4. Trezevant	525	945	1.800
Crockett			
5. Alamo	694	1,082	1.559
6. Bells	554	939	1.695
7. Crockett Mills	343	529	1.542
8. Friendship	304	444	1.461
9. Gadsden	505	787	1.558
10. Maury City	559	896	1.603
Gibson			
11. Bradford	728	1,134	1.558
Marion			
12. Richard City	184	263	1.429
Mean	521	834	1.591
Median	515	842	1.561
Range	184 - 975	263 - 1,523	1.429 - 1.800

1.568 county, 1.620 urban, 1.517 suburban, and 1.561 rural-urban. Those classified as suburban are the lowest. The rural-urban and the urban have ranges that are close, with the urban having the highest median.

We should emphasize that these ratios or relative percents of additional pupil unit equivalencies are based on the numbers of students who are served in available programs and not necessarily the numbers who might be or should be served to meet all needs.

Summary

- Observations and Conclusions -

This study is limited to the critical financial factors that enter into the measure of educational need on the expenditure side. The analysis is restricted further to current operating expenditures. Capital facilities are excluded from consideration because the complexities of gathering meaningful data on costs of new building, renovations, acquisitions of new sites and their development, and selection of capital equipment are beyond the scope of this study.

The problems of determining equity of taxation on the revenue side also are beyond the scope of this paper, but they are being studied in other parts of this overall project.

Tennessee is in the forefront among a few states that are developing a comprehensive financial measure of educational need which includes: (1) weighting factors for teacher (T & E) characteristics, and (2) program weightings for differences in grade level costs, various special needs of pupils with handicaps, and vocational education. The structure of this is sound. It is based on principles of equity. What the writer has to contribute in summary are observations and suggestions from his own experience and from study of the works of other students of educational finance that may be of some assistance to the leaders of this state in making further progress. Fortunately the present system of finance is in need only of modification and fine tuning but not fundamental reconstruction.

The suggestions are as follows:

1. The program cost accounting system should be developed as rapidly as possible to reflect the distribution of costs of the designated programs.

2. Concurrently, the present information system should be modified to reflect the actual costs of programs annually as well as the distribution of pupils and the proportion of time spent in the respective programs. Thus the state would be able to make modifications from analysis of experience rather than from procedures based on estimation.

3. The present teacher weighting factors (T & E) of all professionally certified staff are sound. They provide incentives to school systems to select and to retain high quality personnel. They provide career incentives to individuals. A third factor based on a reasonable measure of professional study and growth that are not reflected in the present T & E factors would be desirable.

4. The present pupil weightings should be re-examined with the following considerations for possible improvement:

   (1) Change the primary count of pupils from average daily attendance (ADA) to average daily membership (ADM).

   (2) Fund all of the extra costs of programs for special needs (Handicapped, Compensatory, etc.) and vocational education totally from state funds plus applicable federal funds. This method is the simplest and most direct approach to equalize the varying intensity or impact of special needs among school systems. Thus the total extra costs of pupils who reside in one district but

must be transported to another district or special center for special instruction could flow directly to the site of instruction.

Under the present method the extra weighted pupil units are funded by the state only up to the prescribed foundation level plus applicable federal funds. Thus school systems are forced to draw the remainder of the extra costs from their general funds. This situation may account for some of the low prevalence ratios as reflected in Tables 2, 3, 4, and 5. It may be, for example, that the federal law 94-142 is largely a result of conditions in a number of states where pupil needs have been determined by available funds rather than by professional evidence of instructional and remedial needs.

(3) Fixed weightings of program costs (whether based on average practice or exemplary practice) should be re-examined. The writer has found in his recent studies in two states (Illinois and Nebraska) that programs vary in costs due fundamentally to conditions that affect the pupil-teacher ratio and the consequent supportive services. For example, children vary in intensity of need even within a particular instructional program. In a large system the classes for mentally retarded children may average between 8 and 10 pupils, whereas in a sparse area there may be only half this number. In the latter case the cost per pupil may be double the former. Take another case where the children are less handicapped and can be instructed equally well (perhaps

mainstreamed) with a resulting class size of 15 pupils per teacher. In this case the cost per pupil might be only 50 percent greater than children in the basic academic programs only. Thus, the writer has introduced levels of cost intensity based on categories of average class size so that programs may in fact have variable cost differentials rather than fixed ones. This principle likewise should be considered for vocational programs.

5. There may be justification for the addition of a financial weighting factor to the present measure of educational need for small schools whose size is determined by sparsity of population.

6. The impact of declining enrollments should be examined closely for the possible need of temporary factors to cushion the sudden adjustments from one year to the next. At best such factors can prevent radical adjustments that are not feasible in proportion to enrollment decline.

7. There is no evidence in the data available to the writer that the measure of educational need in Tennessee favors one type of school system over another type. The variations within types are about as great as between types. The differences are associated basically with the composition of the student population. We do not know the extent to which the true needs of students have been identified, and unknowingly reflected in the statistics. Since the state funds cover only the extra costs of special and vocational programs up to the foundation level the local school system picks up the remainder plus additional

funds for the basic academic component. Thus, in all probability the wealthier districts have higher prevalence rates because they have been able to accommodate larger numbers of relatively more expensive pupils. The least wealthy districts may have adjusted admission to programs to meet budget limitations. The writer has found these trends in other states and mentions them as possibilities in Tennessee.

8. State and federal categorical funds for general service (non-instructional) programs that cannot be prorated feasibly to instructional programs should be continued on a separate basis. However, their own indigenous needs must be studied continuously.

9. Federal special program funds, whether for instructional or for service programs, should be channeled to the respective programs and treated as a contribution to the extra costs.

10. Finally, the principle of adequacy pervades all measures of equity. The minimum level of support that results from a state system of financing public schools is the test of adequacy.