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AUTHOR Swanson, Austin D.; Lamitie, Robert E.
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ABSTRACT

This paper describes a project designed to provide educational decisionmakers with projections of and forecasts about future metropolitan conditions and problems, and information about the implications of alternative ways of solving metropolitan problems. Project components included (1) population and economic projections and forecasts, (2) financial implications of these projections, (3) consideration of organizational alternatives, and (4) a plan for construction of racially integrated middle schools in Buffalo, New York, and the exploration of the possibilities of metropolitan educational parks. (LLR)

Project 1990

Educational Planning at the Metropolitan Level*

by

Austin D. Swanson, Professor
State University of New York at Buffalo
and
Robert E. Lamitie, Executive Secretary
Western New York School Development Council

For some years it has been clear that the organization, financing and operation of schools in metropolitan areas is generally unequal, uneconomical, and inefficient. But it has continued. Efforts to reform it have been limited, sporadic, and largely ineffective. The 1968 yearbook of the NSSE provided a summary of the efforts in metropolitan cooperation to that time and of the principles of metropolitan reform that were found or asserted by appropriate specialists.[1]

"Community" means many things to many people. Outside major metropolitan areas there is little difficulty in identifying economic and sociological communities. There is typically a relatively densely populated core in the form of a hamlet, a village, or a small city and a surrounding area of farm and non-farm residents who may work, shop and socialize in the core. These communities are governed by one or a very few governmental bodies. Typically all the children attend the same public school system. With centralization in non-metropolitan areas, a school district may encompass more than one community, however it is rare that a community is divided among school districts.

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Metropolitan areas are communities in the economic and sociological sense, but people tend to identify themselves with one of a myriad of sub units. There are many centers of employment, of business and of commerce. Patterns of socialization are diverse and widely scattered. There tends to be a homogeneity of population in large residential areas according to socio-economic status. There are scores of political subdivisions including school districts which in addition to their prescribed powers hold little more than historical significance. Some political subdivisions contain within their boundaries old and dying sections of the community at large. Others are young and growing. In the Buffalo Metropolitan area, the focus of Project 1990, there are 40 school district, 6 city, 21 village, 37 town and 2 county governments to say nothing of the scores of special purpose boards and districts.

The problem of planning and projecting for the future of individual units of government within metropolitan areas is made even more difficult by the fact that each unit represents only a portion of the total community and as such, its trends are magnified and are more subject to external influences. If a unit happens to be in an old section of the metropolitan area, it is deteriorating -- and deteriorating all over. If a unit happens to be on the growing edge of the metropolitan area, it is growing at an extremely rapid rate. Although the metropolitan area as a whole experiences a normal pattern of development, subdivisions experience the pains of growth all at once, enjoy a couple of generations of placid maturity, and then find themselves in a state of rapid deterioration. In non-metropolitan areas, the same community phenomena of growing, maturing and dying taking place, however the phenomena are going on continuously within the unit permitting one phenomenon to counteract the effect of the others.

Given the limited resources and perspective of the typical school district in metropolitan areas, planning is made for short periods of time using linear techniques. This can lead, and has led, to gross miscalculations by school districts on the one hand, and an abandonment of long-term planning on the other. In using a metropolitan approach, however, it is possible to make projections for individual school districts with nearly the accuracy which may be expected from projections for comprehensive school districts in non-metropolitan areas. Planning at this level can take into account fertility and survival rates, factors of in and out-migration, economic development, transit changes, etc..

Title III of the Elementary and Secondary Education Act brought an opportunity for metropolitan areas to plan for solving or ameliorating some of their educational problems when "planning for metropolitan areas" was selected as one of the priority areas for Title III projects. As it turned out, very few projects were submitted or carried out in regard to metropolitan planning. The Buffalo-Niagara Falls S.M.S.A., locally known as the Niagara Frontier, was such an area.

That this area was able to submit such a proposal was not surprising. It had a history of cooperation which, though far from what might be wished, is greater than those of most metropolitan areas in the Northeast.

Its schools had formed the Western New York School Study Council in 1948 and the Council has grown steadily since. Under New York's Board of Cooperative Educational Services law, Cooperative Boards consisting of elected representatives of local school boards have offered special programs of vocational and handicapped education on a regional basis since the early fifties. The Cooperative Boards also now offer such additional regional services as data processing, in-service education, and media services.

When the Elementary and Secondary Education Act was passed, New York encouraged the planning and establishment of a network of sixteen regional educational centers to provide services in planning, evaluation, information flow, and other forms of regional cooperation. The Development Council, with certain changes in organization and structure, became the Regional Center for Western New York.

In the needs surveys carried out by the regional center through a myriad of advisory committees of educators and laymen, it was clear that the educational program, expenditure, and tax inequities brought on by the organization and finance structure of school districts was one of the major problems of the region.

Under its Title III grant the Council published two studies of metropolitan cooperation in 1967 and 1968. The first reported the hundreds of contracts involving over fifty different shared services including direct educational services to thousands of pupils.[2] It also reported the opinions of superintendents, school board presidents and teacher organization presidents and found them highly supportive of cooperative programs aimed at economy and efficiency in providing specialized services but cool toward cooperative programs aimed at reducing inequalities.

A public opinion study on the same topic was conducted in 1968. It found widespread recognition of school inequality and of its metropolitan scope, wide support for specialized programs (i.e., handicapped, vocational) on a regional basis, but important opposition to cooperative programs to reduce inequalities. The opposition was based on fear of lowered school quality in the favored suburbs, integration, and on the principle of local autonomy.[3]

When the decision was made by the Board of Directors of the Council to initiate a proposal for a metropolitan planning project, several important considera-

tions were clear.

First, the project should be concerned with providing valid information and projections about the future which would be of practical use to local planners.

Second, the project should not recommend any one plan or solution, but should instead present valid information about the full range of alternatives available, including their costs and their possible disadvantages as well as advantages.

This decision was made for two reasons. First and foremost, there is no agency in the metropolitan area to which recommendations could be submitted, since there is no agency with authority or responsibility to implement them; authority and responsibility to bring about the alternatives studied lies with the State Legislature, supplemented by the Congress of the United States. Secondly, the staff and advisors involved in writing the project were in agreement that this step was as much as could be considered feasible at the time.

Thus the project was aimed at providing information for educators, school board members, members of organizations concerned with education, legislators, and the public. This involved projections and forecasts about future conditions and problems, and information about implications of alternative ways of bringing improvement.

In keeping with this aim, the project set up three advisory committees.

The Professional Advisory Committee consisted of public and private school superintendents and teacher organization representatives. The Technical Advisory Committee consisted of representatives of the business and governmental planning agencies of the region. The Community Advisory Committee consisted of representatives of a wide range of organizations including Leagues of Women Voters, PTAs, black community organizations, parochial school parents groups, civil rights

organizations, Chambers of Commerce, etc..

Recognizing that planning is a political as well as a technical process, these committees, in addition to providing useful inputs to the project, formed a potential reservoir of informed leadership and support for meaningful reform. They also served as evaluators of progress and results of the various project components.

All work plans were cleared through the committees which made several suggestions resulting in changes in scheduled work. All reports were first presented in draft form to the committees for comments and suggested changes. While it was true, as stated above, that the committees and the project were not intended to result in recommendations, the committees did, at their final joint meeting, make one. It urges establishment of an office or agency, formally charged with coordinating planning among school districts and with other governmental agencies in the region.

An important function of the committees was to discuss and adopt a series of criteria which were to be applied in selecting and discussing the alternatives studied. Since the final report discussing the alternatives was based on these criteria, and since the project urged those who suggested other alternatives to make their criteria explicit and written, this task was particularly crucial. These included 1) local control; 2) tax equity; 3) equity in the variety and quality of educational services available to pupils; 4) economy and efficiency of operation; and 5) provision of options among which students and parents can choose. After full committee discussion only one of the criteria failed to get unanimous approval. This stated that public policies on education should "Retain the principle of local control by locally elected school boards." A minority felt this unduly restricting but it was of course used in the report as a basic criterion in keeping with the ground rules.

In planning the project it was clear from the start that most of the work would have to be contracted because of the unavailability of the required specialized personnel for a short term project of this kind. The project was divided into four components for this purpose. It was coordinated by the Regional Center (then known as Project Innovation and now the Planning Component of the Western New York School Development Council). Dr. Frank Ambrosie was the full-time project coordinator. Each project component developed a number of reports, 34 in all, which are summarized in two volumes.[4]

The first project component, on population and economic projections and forecasts, was carried out on a contract with the Cornell Aeronautical Laboratories, Inc..

The second, concerned with financial implications of the projections and of the alternatives, was contracted to the Western New York School Development Council.

The third, relating to organizational alternatives, was contracted with the Faculty of Educational Studies at the State University of New York at Buffalo.

The fourth, involving a plan for construction of racially integrated middle schools in Buffalo and the exploration of the possibilities of Metropolitan Educational Parks, was carried out by the Center for Urban Education. This component will be discussed by Dr. Max Wolff in his paper and will not receive further treatment here.

Population Projections

A most basic factor affecting planning for future educational services is the number of people who will require the service and their location. School district population projections were made for Project 1990 by the Operations Research Department of Cornell Aeronautical Laboratories, Inc..[5] They coordinated this task with a parallel contract with the Erie & Niagara Counties Regional Planning

Board to make projections for political units.

The basic data were drawn from the regular census of 1960, the special census for Erie County in 1966, the special census for Niagara County in 1967, and public school enrollment data for 1959, 1960, 1965, 1966 and 1967. Since public school districts are not coterminous with federal census tracts or political subdivisions, it was necessary to generate estimates of the 1960 and 1966/67 school district populations using ratios developed from the base figures. These population estimates were distributed to five-year age cohorts, i.e., 0-4, 5-9, etc.. By combining cohort estimates it was possible to generate an estimate of the population aged 5 through 17 for each school district. This was checked against school census data. The error between estimated and actual populations for 1960 was within a range of $\pm 5\%$; for 1966/67, $\pm 3.75\%$.

Upon reviewing the economic prospects of the Buffalo Metropolitan Area for the next 20 years, it seemed reasonable to the Cornell analysts to assume that growth would be sufficient to maintain in the area the natural increase in population but not sufficient to cause any in migration. It also appeared that there would be considerable migration within the metropolitan area. The middle-aged, saturated suburbs were pegged at their 1966/67 population level. The cities and certain suburbs, on the basis of a net migration analysis of the basic census data, were projected as experiencing a net out migration. Rural and non-farm rural sections of the metropolitan area were projected as experiencing neither in nor out-migration (i.e., they would retain their natural population increase). Population estimates for the remaining sections, which could be classified as new suburban, were projected assuming that they would receive the out-migration of the older sections. The in-migration was distributed to these districts according to a procedure which roughly approximates a

gravity model, i.e., the distribution was made in direct proportion to mass and in inverse proportion to distance from the core areas.

In estimating the natural increase of population, series D birth rates of the United States Bureau of Census was used for most school districts. Series C and B rates were used for rural and rural non-farm districts. The Census Bureau national survival rates were also used.[6]

The resulting population projections for the Niagara Frontier are quite similar to those which have been projected for the United States as a whole. For the 20-year period from 1950 to 1970, total population had increased 28% while school population had increased 61%. For the 20-year period, 1970-1990, the total population will continue to climb at approximately the same rate, 24%, however the growth in school population will dramatically drop to 10%, virtually all of which takes place during the five-year period from 1985 to 1990. The projected populations are within a fraction of one per cent of the actual population as reported by the 1970 census.

Expenditure Projections

The second component of Project 1990, that of making financial projections, was conducted by the Western New York School Development Council.[7] Financial projections consisted of two major categories: expenditures and revenues. Expenditures were further divided into 4 sub-categories: net current expenditures, debt service and capital outlay expenditures, transportation expenditures, and a miscellaneous category. The focus of the revenue analysis was on the property tax in both counties and on the sales tax in Erie County. The effect of several policy alternatives concerning state and federal aid upon locally levied taxes was estimated.

A basic consideration in projecting expenditures was the number of children to be educated within the public system. Based on the population projections for the school age cohort, 5 to 17, estimates of the public school enrollment were made for each district for grades K-6, 7-9, and 10-12 at five-year intervals beginning with 1970. In making these projections, consideration was given to the districts' holding power, the proportion of student population enrolled in non-public schools, and enrollment projections made by the Diocese of Buffalo, which educates approximately 90% of the children not enrolled in public institutions.[8]

Net Current Expenditures.[9] Maximum and minimum projections were made for net current expenditures. The maximum projections assume a geometric rate of growth in costs per pupil; the minimum projections assume a linear rate of growth. Net current expenditures approximate the New York State Education Department classification, "Approved Operating Expenditures," plus expenditures for federal programs. These expenditure categories were combined because federally financed programs are typically instructional programs and are of a similar nature to those programs financed from state and local funds.

Rates of increase and operating costs were examined for the five-year 1962-3 through 1966-7 for high and low expenditure school districts and for high and low growth rate districts. Growth rate did not appear to have a significant effect on the rate of increase in per pupil operating costs but the relative expenditure level of a district did. Districts were divided into three groups according to 1962-3 expenditure. The lower expenditure group experienced an average annual rate of cost increase of 5.6% in 1967 dollars or $21.00 per pupil. The middle expenditure group experienced an average annual rate of cost increase of 4.8% in 1967 dollars or $18.40. For the highest expenditure group, the rate was 4.3% or $16.60. Each

district was classified as high, middle or low expenditure based upon its actual 1966-7 approved operating expenditure per weighted average daily attendance (WADA). To estimate the 1969-70 expenditure for both the maximum and minimum projection series, the 1966-7 expenditure per WADA was increased at the appropriate rate for the district's expenditure classification. The districts were regrouped according to 1969-70 projections and the appropriate five-year rate of increase was applied to obtain 1974-75 estimates. The process was repeated for each period to 1989-90. Implicit in this procedure is an assumption that there will be a deliberate state policy to reduce the disparity among school districts in expenditure per pupil.

Debt Service and Capital Outlay Expenditures.[10] A single series of projections of debt service and capital outlay expenditures was made. These expenditures consist of interest and principal payments on existing debt and of interest and principal obligations to be incurred for new construction. Data on interest and principal payment for existing debt were gathered from the records of the New York State Education Department and from the school districts directly. Data on new construction needs were obtained through a special study of building needs.[11]

The special study of building needs included an inventory of all school facilities in operation, under construction, or contemplated. The inventory reported the location of each building, the year built, age, years of major additions, years of major rehabilitation, the type of construction, the grades housed, the pupil capacity, and the actual pupil enrollment as of October 1968. In determining the adequacy of buildings now and in the future, several rules of thumb were used. A building which was not of fireproof construction was automatically considered a candidate for replacement. A period of 50 years was considered to be the expected useful life of a school building. Each school building or addition that was or becomes 50 years old

during the period 1968 to 1990 was included on a replacement schedule. A major renovation was considered to extend the useful life of a school building 15 years from the date of renovation.

In projecting future building needs, comparisons were made for each five-year period between the adequate pupil spaces available and the projected pupil population. This process indicated that 157,000 pupil spaces would need to be constructed during the period. Nearly half would be in the City of Buffalo school district. All of this would be to replace outmoded facilities. Another 25% of the construction would be in three rapidly-growing suburban districts. This would be almost entirely for the purpose of accommodating district growth. The remaining 25% of the estimated construction was distributed among the 36 other districts in the metropolitan area.

In converting pupil-space needs to 1967 dollars, provision of each K-6 space was considered to cost $2,250 (for construction and site acquisition) and each 7-12 space $3,125. These amounts are those proposed by the New York State Joint Legislative Committee to Revise and Simplify the Education Law as the maximum amount for which state aid would be paid as of December 1, 1967. They reasonably covered the actual building costs on the Niagara Frontier. It was assumed that financing of new construction would take place through 30-year bonds and optimistically at an annual interest rate of 5%. Projected debt service costs were combined with existing commitments into a total estimate for debt service and capital outlay.

Transporation Expenses.[12] Increases in transportation costs per pupil on the Niagara Frontier have closely parallelled the dollar inflationary trend. Since projections were made in constant 1967 dollars, the cost per pupil transported during the 1966-67 school year for each district was used as the basis for projecting

transportation costs to 1990. The number of children to be transported in each district was estimated by increasing the actual number transported in 1966-67 in direct proportion to the projected increase in Weighted Average Daily Attendance. It is interesting to note that in the 6 cities in the metropolitan area, only 18.8% of the children were transported during the 1966-67 school year. In the suburbs, however, 73.5% of the children were transported. For the metropolitan area as a whole, nearly half of the children were transported to school at public expense.

Other Expenditures.[13] Having taken into account net current expenditures, debt service and capital outlay expenditures, and transportation expenditures, a residual expenditure remains which is entitled "Other Expenditures." These expenditures are of a similar nature to net current operating expenditures and consist primarily of financial obligations under contract to Boards of Cooperative Educational Services (BOCES). In projecting other expenditures to 1990, the per cent of other expenditures of net current expenditure for 1966-7 was taken of the projected net current expenditures. While it is expected that BOCES type expenditures will increase at a faster rate than total expenditures, especially for districts which did not belong to BOCES in 1966-67, it is also expected that these increases will result in a corresponding decrease in projected net current expenditures, thereby not affecting the sum of the two expenditure categories.

Total Expenditures.[14] The accumulation of net current expenditures, debt service and capital outlay expenditures, transportation expenditures and other expenditures constitutes total expenditures. Four years after the projections were made, actual expenditures are running within one per cent of the maximum projection series.

Revenue Projections

The Property Tax Base.[15] Separate projections of real property valuation were made for Erie and Niagara counties (as county units) based upon the trend of the 1960-67 period. This trend suggested a rate of growth for each five-year period equal to 5% plus the projected percentage of total population growth.

In order to develop estimates for various political subdivisions, property was classified into three categories, residential, farm, and "other," which is primarily industrial and commercial property. The value of residential property per capita in 1967 dollars was held constant to 1990 (i.e., the expected growth in value of residential property is proportional to the expected growth in population). Farm property valuation was decreased 10% for each five-year period. Both of these operations were based upon regional trends since 1960.

"Other" property valuation was estimated by subtracting the sum of residential and farm property valuation from the total valuation projected for each county. This amount was assigned among three classifications of cities and towns. The "core" classification consists of the central cities and the first ring of suburbs. The "outer" classification consists of the second ring of suburbs. The "rural" classification consists of the remainder of the metropolitan area. In 1966, 89.6% of the "other" property valuation was located in core sub-divisions. 5.9% was located in the outer subdivisions and 4.5% in rural subdivisions. It was arbitrarily assumed that the bulk of new industrial and commercial growth would continue to be in the core but at a diminishing rate. Thus the proportion of "other" property valuation growth assigned to the core declines 1% per year while that assigned to the outer subdivisions increases at .6% per year and that assigned to rural subdivisions eases .4% per year. The assignment of new valuation to subdivisions within

each classification is based on the availability of land zoned industrial or commercial in 1966.

Projections of property valuations were made for cities and towns, the assessing units of the metropolitan area. Projections were not made for school districts except for those which are coterminous or nearly coterminous with political subdivisions. This procedure yielded results which suggest that property valuation for the next 15 to 20 years will increase at a rate more rapid than public school enrollments, but at a rate less than expenditures.

The Sales Tax.[16] Since Erie County school districts receive revenue from the county sales tax, projections were also made for this revenue source. Considering the growth in per capita disposable personal income for the county, the elasticity of the sales tax, and the performance of the tax in Erie County during a relatively normal period, a minimum 3% annual growth in sales tax revenue per capita appeared to be a reasonable assumption. A 4% annual growth rate would be a reasonable assumption if the county should overcome its present economic difficulties and enjoy a rate of growth approaching the average rate for the nation. The 3% annual growth rate assumption produced a minimum revenue projection series; the 4% annual growth rate produced a maximum projection series. All projections are made in 1967 dollars. Even the minimum projections are encouraging. It appears that sales tax revenues will increase at a rate faster than either enrollment or expenditure estimates. The proportion of expenditures produced by the sales tax will increase from a low of 7.5% in 1970 to between 9 and 13% in 1985. It is interesting to note that property taxes in Erie County were lower than those in Niagara County by an amount approximately equivalent to the revenue raised by the county sales tax.

Fiscal Prognosis. Complimentary studies were made of the impact of municipal revenues upon educational revenues[17] and of the administration of the property tax.[18] All in all, it would appear that if the federal and state governments maintain their present proportional level of school support, most suburban and rural school districts will be able to continue to meet their revenue requirements with modest increases in property taxation. Most of this increase will take place during the period of 1970 to 1975. The period 1975 through 1985 will be one of relatively stable property taxes. During the period 1985 to 1990 when the pupil population once again begins to grow, school districts will begin to experience increasing fiscal difficulties.

If the proportional federal and state involvement should increase at a rate of .5% a year, no property tax increases would be necessary for most rural and suburban districts. City districts, however, present a special problem. They have severe constitutional tax limits which prevent them from raising property taxes to the level required by anticipated expenditure needs. Even if cities did have free access to the property tax, the municipal overburden study indicated that the competition for the property tax dollar from municipal sources is far greater than in either suburban or rural districts. It is unlikely that cities, educating 45% of the student population, will be able to meet the expenditure requirements given the present organization of school finance.

Organizational Alternatives

The third component of 1990 concerned itself with the development of possible organizational plans which would relieve the social and financial inequities which exist and are projected for the metropolitan area. This component was contracted to the State University of New York at Buffalo and involved an interdisciplinary team involving lawyers, social psychologists, school administrators,

urban planners, and organizational specialists. From their respective knowledge bases, the team projected the changes in educational goals and methods which seemed reasonable to them.

Based on their work three dilemmas were identified which precluded the development of a single best solution to metropolitan problems. The three major dilemmas were: 1) local control versus financial equity; 2) integration versus local control; and 3) centralization versus decentralization.

Using primarily brainstorming procedures, eight alternative organizational models were considered and possible variations of each were discussed. The eight are. 1) continuing the present arrangement unchanged; 2) establishment of metropolitan or county-wide school districts; 3) reform of the state school aid laws; 4) greatly increased federal aid; 5) regional tax redistribution; 6) creation of a metropolitan federation of school districts; 7) expanding and strengthening Boards of Cooperative Educational Services; and 8) metropolitan educational parks. The eight models are not mutually exclusive. The research team did not single out any one to be preferred over the others. It took the stance that no one of them could, by itself, provide satisfactory solutions. It expected that some combination of them would be a much more probable likelihood. No claim was made to exhaust the possibilities but rather to present a reasonable range of some of the major policy alternatives.

Results

What have been the results to date? Since the purpose of the project was to inform educational leaders and the public about present and probable future problems and about possible solutions, it would have been well to conduct formal before and after opinion surveys. This was not possible under the project budget. We hope,

however, to be able to repeat in a year or so the opinion surveys conducted in 1967 and 68 referred to above.

Meanwhile, there are hopeful evidences of progress. We were quite fortunate in our newspaper, radio and television coverage. Our reports have been widely distributed and requests for them are continuing to come in.

There have been some notable conversions of individuals who opposed the very idea of a project because it used the word metropolitan, but who have now told us that they had not realized the extent of the inequities and now agree they must somehow be corrected. In general, such people still oppose the alternatives involving changes in school organization but now support increases and reforms in state and federal aid.

Another evidence that we've had some impact is the fact that a new conservative citizens group has been formed for the specific purpose of opposing the project. They've been kept off balance by the fact that we kept our word and presented alternatives rather than making the recommendations they predicted. On the whole, we're pleased the organization exists since they keep our name in the papers and give us a chance to present our facts.

Another benefit of the project has been its result in establishing closer ties between the School Development Council, school administrators, and private and governmental planning agencies.

The purpose of 1990 was not to prescribe future development but, as systematically and accurately as possible, to project the conditions that will be likely to exist in the 20 years ahead. It also tried to fit various policy alternatives to those projected conditions so that the long-range implications of policy changes could be estimated. Project 1990 did not make decisions. Rather it made available to decision-makers a set of systematically-developed information which should assist them in their awesome task.

Footnotes

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