North Carolina in Ruins?

The State Role in Financing Local Infrastructure

Over the last two years there has risen a growing public concern about the state of the nation's infrastructure; that is, public facilities, highways, water supply, and wastewater treatment services. The genesis of this concern was the 1981 book, America in Ruins, by Pat Choate and Susan Walter. Choate and Walter argued that:

> "America's public facilities are wearing out faster than they are being replaced. Under the exigencies of tight budgets and inflation, the maintenance of public facilities essential to national economic renewal has been deferred. Replacement of obsolescent public works has been postponed. New construction has been cancelled... Without attention to deterioration of that infrastructure, economic renewal will be thwarted, if not impossible. We have no recourse but to face the complex task at hand of rebuilding our public facilities as an essential prerequisite to economic renewal."

In North Carolina there is currently an estimated $3 billion backlog of needs to repair and replace obsolete, temporary, and deteriorating facilities in highways, sewer, and schools alone. The number of inhabitants in North Carolina is expected to increase by 17 to 25 percent by the year 2000, requiring the state's infrastructure to support between 900,000 and 1.4 million more people and up to one-half million more households. Employment is predicted to increase at approximately twice the rate of population growth. The level and location of major private sector capital and other investment decisions will likely be influenced by the quality of infrastructure available and whether or not a sound program for maintenance and expansion exists.

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Concern over these factors prompted a recent study through North Carolina's Department of Natural Resources and Community Development (NRCD) on the state's infrastructure needs in highways, water supply, wastewater collection and treatment, and education. The study compares projected costs and revenues for capital improvements in these four areas which have been judged vital to economic development and to the future quality of life in the state. Alice Garland-Swink of the Office of the Assistant Secretary for Policy Development (NRCD), guided and assisted with the study, and Professor Edward J. Kaiser of the Department of City and Regional Planning, University of North Carolina at Chapel Hill, supervised and co-authored the original report.

This article will focus on the three areas in which state and local governments have traditionally shared responsibility for capital investment: drinking water supply, wastewater collection and treatment, and primary and secondary school facilities. In the past the state has financed its share of costs for water and sewer facilities by issuing Clean Water Bond Acts in 1971 and 1977. The state has also issued bonds for school facilities in several years since 1949.

In 1983 the North Carolina legislature dramatically changed means of both collecting and distributing the state portion of infrastructure funding. House Bill 426 gives North Carolina counties the option of raising the local sales tax by one-half percent. All revenues from the increase are placed in a pool and redistributed to counties in proportion to their population. Each county must then share a portion of its revenue with every municipality within its bounds, based on the city/county proportion of either population or total property taxes. In the first five years of the tax, counties must spend at least 40 percent of their share on public school capital needs, and cities must spend 40 percent of their share on water and sewer capital outlay. In the next five years these percentages drop to 30 percent. The bill also withdraws authorization for a third issue of Clean Water Bonds that the legislature had previously approved.

This paper will explore capital investment needs and projected revenues to meet those needs before and after the enactment of the one-half percent local option sales tax. The three affected areas of infrastructure -- water supply, wastewater treatment, and primary and secondary

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schools -- will be discussed in turn. The final section will evaluate changes occurring as a result of the legislation in terms of two major questions: 1) Why should (or should not) the state be partially financing infrastructure in this area? and 2) Is the one-half percent sales tax a good way to do so?

Water Supply

North Carolina has a sufficient, if not abundant, supply of high quality water. Yet the state's growing population, continued industrial development, and dispersed settlement pattern will place increased pressure upon local governments' ability to provide drinking water in sufficient quantity and quality.

Since water provision is primarily a local responsibility, North Carolina has a large number of relatively small water systems. Of the state's 427 municipal systems only fifty have 500 or more customers, and only ten serve more than 10,000 people. About 11,000 more non-municipal systems dot the state.

A growing number of the state's municipal systems are reaching capacity. Statewide, an estimated 96 systems will reach or exceed capacity by the year 2000, for a deficit in treatment capacity of 117 million gallons per day.

The cost of meeting these needs is difficult to calculate. A 1981 Department of Human Resources study found about $640 million in needs over the period from 1982 to 1987, but no statewide figures beyond 1987 are available. Assuming that 30 percent of the 1987 needs are backlog needs, we can determine that $183 million represents current needs, while the remainder represents yearly needs of $91 million. If annual needs remain at this level, the total year 2000 needs for North Carolina will be $1.83 billion. This is a very rough estimate, but a more reliable figure is not available.

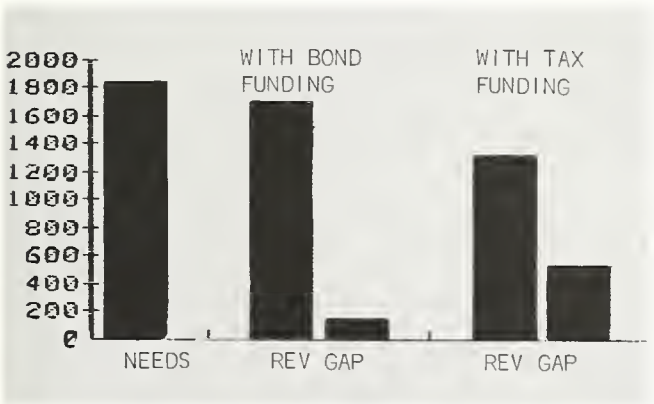


Figure 1. North Carolina drinking water supply financing, in millions of 1982 dollars.

The greatest portion of the burden of water supply financing has been borne by local governments, with some state aid and a small amount of federal help. The local monies have been raised primarily through the issuance of local general obligation bonds, $433 million in the last decade. State aid has been provided through the Clean Water Bond Acts of 1971 and 1977. These grants have totaled $185 million, while federal aid from various sources has accounted for $102 million.

Figure 1 indicates drinking water supply funding situations with bond or tax funding through the year 2000. Assuming that federal and local funding continue at current levels, by the year 2000 federal aid will amount to $107 million, and local monies raised will be $1,085 million. If the state had continued Clean Water Bond funding, its share would have been $493 million, about $24 million per year. In this case total revenues would have been $1.69 billion, compared to needs of $1.83 billion. A shortfall of $143 million, less than 8 percent of the total, would have resulted.

However, the new one-half percent sales tax has replaced Clean Water Bond funding. Optimistic projections of sales tax revenue predict that an average of $7.5 million per year will be made available for water projects, less than one-third of the $24 million provided by Clean Water Bonds. From all sources, local, state, and federal, revenues will total only $1.31 billion, leaving a shortfall of $517 million, all to be borne by local governments. This shortfall is almost half of the projected local revenues.

Wastewater Collection and Treatment

Over the last ten years North Carolina has made substantial progress in cleansing its streams, rivers, and lakes. Yet, almost 50 percent of the state's municipal treatment facilities do not meet federal water quality standards, and there are development moratoria in more than 100 North Carolina towns because of inadequate waste treatment plants.

The EPA 1982 Wastewater Needs Survey found $1.77 billion in North Carolina needs, with $1.07 of the total made up of backlog needs. Compared to the United States average, North Carolina's needs are more focused upon catching up with demand for system expansion and requirements for improved treatment.

Unlike water supply, wastewater treatment has seen heavy federal involvement in funding. Since 1972, most sewer projects have received 75 percent federal funding from EPA Section 201 grants, 12.5 percent state funding from Clean Water Bonds, and 12.5 percent local funding, mostly from general obligation bonds. From 1973

to 1982, funds from all federal sources totaled $635 million, the state contributed $155 million, and local revenues were $241 million.

The Reagan Administration has drastically reduced Section 201 funding, and in the future North Carolina will receive about half the annual funds it did previously. If current federal funding levels continue until the year 2000, altogether the state will receive $895 million. Since the U.S. will provide only 55 percent of future project funding, an additional $879 million in state and local funding will be required to secure these federal monies.

Since 1972 there has been a downward trend in local sewer funding. Assuming the continuation of this trend, by the year 2000 about $369 million in local funds will be raised. Figure 2 shows the North Carolina situation if Clean Water Bonds had been continued, contrasted with the state's one-half percent sales tax use for

ALMOST 50 PERCENT OF THE STATE'S MUNICIPAL TREATMENT FACILITIES DO NO MEET FEDERAL WATER QUALITY STANDARDS

funding local sewers. It is evident from the table that the matching fund problem has become even more severe. Since local needs amount to $1.77 billion, there will be a massive $688 million shortfall with use of the half percent sales tax. Of that shortfall, $296 million in added federal funds could be secured, but local governments still need to raise an extra $392 million beyond the projected $369 million. In short, local governments will have to double their sewer expenditures if all the year 2000 needs are to be met.

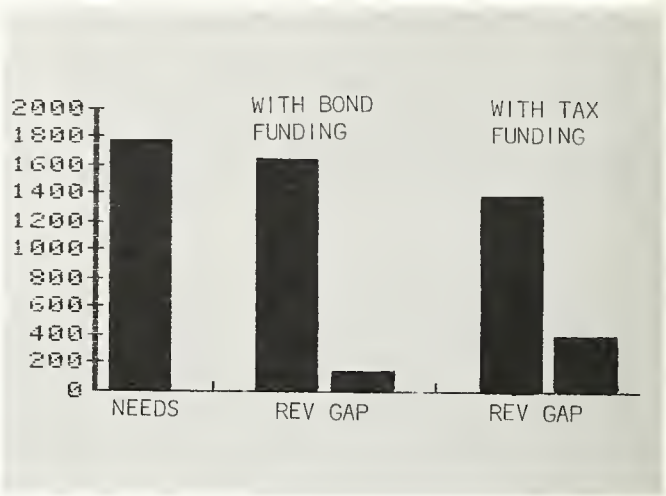


Figure 2. North Carolina wastewater treatment financing, in millions of 1982 dollars.

Primary and Secondary Schools

North Carolina counties are responsible for providing primary and secondary school construction, repair, and maintenance. The state has, however, periodically provided funds for these activities since 1949 by issuing state school facility bonds. A total of four state bonds have been issued, the most recent in 1973. The last two bonds, in 1963 and 1973, were distributed on the basis of average daily attendance and could be used to retire local school bonds (although a majority of the funds were used to improve or construct facilities). From 1971 to 1981 local governments contributed an average of 71 percent, state government 24 percent, and the federal government 5 percent of the capital costs of schools.

Table 1
NORTH CAROLINA INFRASTRUCTURE PROJECTED NEEDS AND REVENUES
1983-2000
(MILLIONS OF 1982 DOLLARS)

		PROJECTED REVENUES							
				WITH BOND FUNDING*			WITH SALES TAX**		
AREA	PROJECTED NEEDS	FEDERAL	LOCAL	BONDS	TOTAL	GAP	TAX	TOTAL	GAP
SCHOOLS									
CONSTRUCTION	3420	267	2460	400	3127	293	643	3370	50
MAINTENANCE	2160	0	984	0	984	1176	0	984	1176
TOTAL	5580	267	3444	400	4111	1469	643	4354	1226
WATER	1829	107	1085	493	1685	144	120	1312	517
SEWER	1774	895	369	370	1634	140	120	1384	390

* Assumes continuation of Clean Water Bonds and School Bonds at previous funding levels.

**Assumes 100 counties participating and 6% annual increase in sales, with 3% inflation.

Over 27 percent of the classrooms currently in use in primary and secondary schools were constructed before 1949, 29 percent were built between 1950 and 1959, and 44 percent have been constructed since 1960. The oldest buildings often have serious deficiencies, and many of those built in the 1950's require extensive renovation. Currently, more than 4,500 temporary and improvised classrooms are in use across the state.

Based on a 1978 survey and updated estimates by the Department of Public Instruction, and our own independent projections for the period beyond 1990 (based on a percentage of replacement cost), total capital improvement needs for construction and renovation are estimated to be $3.42 billion through the year 2000. School administrators generally agree that a minimum of two percent of replacement costs, estimated at about $6000 per pupil in North Carolina, should be budgeted for the maintenance of facilities. This would require expenditures of $120 per pupil or approximately $2.2 billion over the 18-year period, (funded out of current revenues).

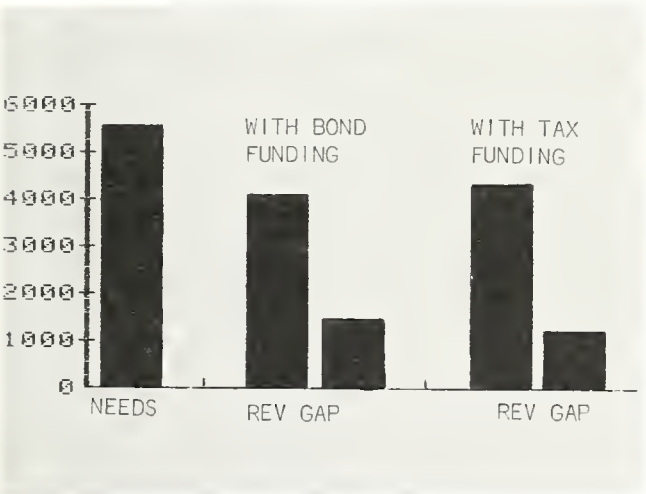
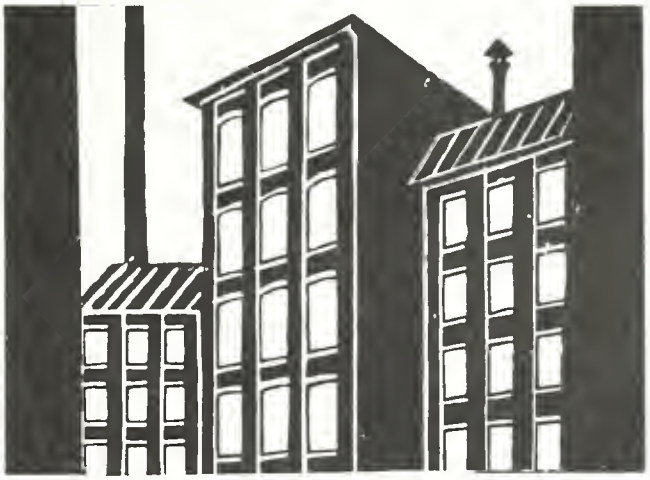


Figure 3. North Carolina primary and secondary school financing, in millions of 1982 dollars.

No further state school bond issues are anticipated in the near future due to the recent authorization of the local option one-half percent sales tax. A moderate local revenue estimate, based on trends in county revenues and the proportion devoted to school capital outlay, yields $2.5 billion for the 18-year period. If the federal government continues to provide 4.8 percent of total requirements as in the 1970's, it will contribute approximately $267 million. Total revenues without state participation equal $2.7 billion, or $693 million less than estimated needs. The school's capital outlay share of the counties' portion of the one-half percent sales tax increase is estimated to be $643 million over the 18 years, leaving a gap of $50 million.



Maintenance expenditure requirements were projected to be approximately $2.2 billion. The average amount spent on maintenance per pupil in 1980-1981 was $54.65 or 45.5 percent of the recommended $120. If 45.5 percent of the recommended level is funded through the year 2000, only $984 million will be spent on maintenance, or $1.2 billion less than the recommended level.

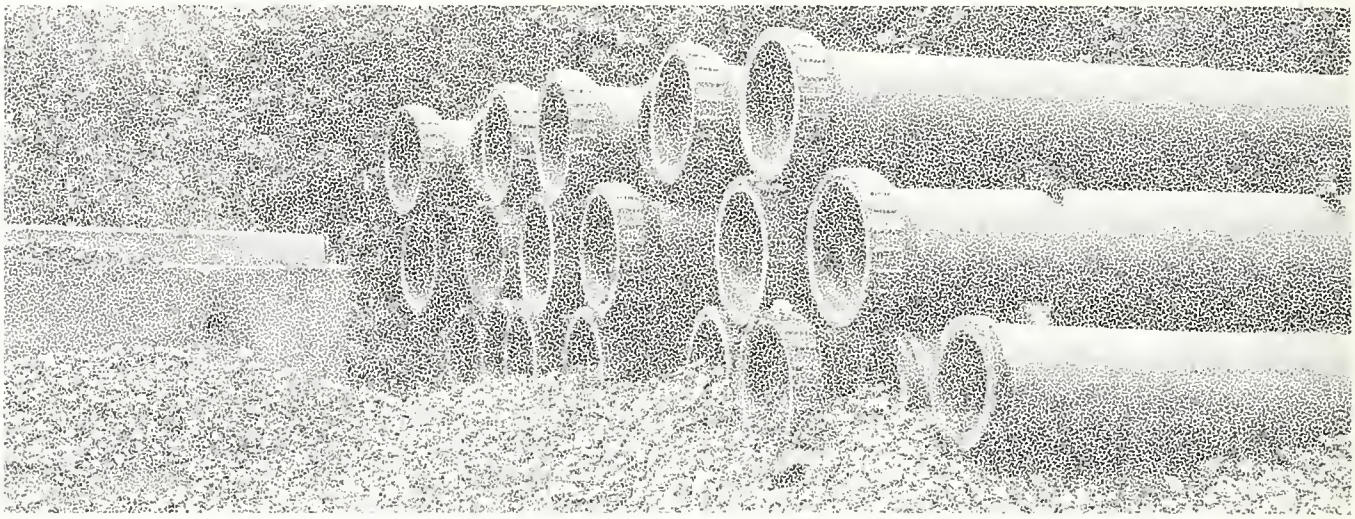
A total gap for schools for the 18-year period is $1.87 billion before enactment of the sales tax and $1.23 billion after. Local governments will be responsible for meeting virtually all of the construction, renovation, and maintenance needs if the current funding situation persists through the year 2000.

Conclusions

The one-half percent sales tax represents a new direction for the financing of the states's share of local infrastructure. Among the many issues raised by this change are three that are particularly important. First, how much revenue will be raised for water, sewer, and schools?

THE CHIEF EFFECT OF THE SALES TAX IS TO REMOVE THE STATE FROM ANY ACTIVE ROLE IN LOCAL INFRASTRUCTURE FINANCING

The North Carolina Department of Revenue projects that with all 100 counties participating and a six percent annual growth rate, $1.7 billion will be raised over the next ten years. Assuming a three percent inflation rate, the year 2000 total becomes $2.8 billion (in 1982 dollars). Of that amount, $643 million will be dedicated for schools, and $240 million for water and sewer projects. These amounts could be substantially higher if local governments use undedicated sales tax funds as well, but the totals could also be lower since the dedicated funds can be used to retire debt from past expenditures.



Second, how well will the tax funds be matched to local needs? Not very well. Areas will receive funds based on population or property tax revenues, not needs. Since school bond monies were distributed largely by attendance levels, this is not a significant change. In contrast, Clean Water Bond distribution was determined mainly by need. It is probable that water and sewer money will not be as well spent as it was under the Bonds.

Third, the chief effect of the sales tax legislation is to remove the state from any active role in local infrastructure financing. Localities have been granted an additional revenue source, but in the long run they will have to shoulder the entire burden. It may turn out to be a high price to pay for the added revenues.

We will now consider the impacts of the new legislation on each area of infrastructure and, in particular, the fundamental question: should the state be involved?

Of the three areas, state involvement in water supply infrastructure seems the least necessary. By and large, the local residents who benefit from water supply infrastructure are those who pay for it. There is some inequity due to the accidents of history and geography that make water provision more expensive for some communities than for others. Yet the revenues from the tax seem to adequately represent the state responsibility. Although the needs/revenue gap is large ($517 million), when localities need water they are usually able to find the means to pay for it.

The situation in wastewater treatment is much different. For the most part, those local areas which must pay for treatment are not those which benefit from it. Because such large economic spillovers exist, there is a strong rationale for state involvement in the provision of wastewater financing. Well-conceived and strictly-enforced water quality regulations will help, but both the carrot and the stick are necessary. Projected local revenues total only $369 million, and these must be increased by 65 percent (to $612 million) if all the available federal funding is to be secured. An increase of 105 percent (to $759 million) will be necessary to meet all projected needs. Unless the state reassumes an active role in wastewater capital financing, North Carolina will carry a massive backlog of needs into the next century.

The responsibility for maintenance, renovation, and construction of primary and secondary schools rests with counties even though the state has been providing funds for capital investment needs since 1949. Additional revenue from the state sales tax, approximately $643 million, is sufficient to meet facility requirements. However, needs vary across counties. Those counties with few requirements can use the extra revenue to retire local school bonds while those with significant needs or a smaller tax base may not be able to fund facilities adequately. The major gap will occur in maintenance of plant, where the state has traditionally played a small role. Section 15 of the Declaration of Rights of the Constitution of North Carolina states, "The people have a right to the privilege of education, and it is the duty of the state to guard and maintain that right." If the lack of adequate facilities in a county is interfering with that right, it may be the duty of the state to intervene and provide funds for meeting facility needs.

Will the future find North Carolina's infrastructure in ruins? In general, the picture is not discouraging. Adequate school capital funding seems probable, with water funding somewhat less certain. Only in the area of wastewater treatment is the situation potentially alarming. Here, if anywhere, we can expect insufficient investment in infrastructure to thwart North Carolina's continued economic growth.