Stephanie W. Greenberg

Distributing the Public Cost and Benefits of Growth in the Raleigh-Durham Area

Although the accuracy of economic development models is enhanced by the inclusion of public sector subsystems, one problem which tends to be ignored in most of these models is the imbalance which often arises in the distribution of public costs and benefits. This problem involves two issues. One concerns the degree to which the public costs and benefits of development are distributed equitably among the residents within a single jurisdiction. The other issue pertains to externalities, specifically whether or not there is a significant spillover of costs and benefits from one jurisdiction to another.

This report deals with both types of issues over the period from 1960 to 1980 in the Raleigh-Durham area. Among the intrajurisdictional issues which we shall analyze is the degree to which suburban or fringe development in annexed areas has been underwritten by central-city residents, or conversely, the degree to which the property of suburban residents has been exploited as a new tax resource by central cities. If disproportionate shares of the costs and benefits of growth have been realized by certain groups, an inequitable situation will be deemed to exist. A second intrajurisdictional issue we shall examine is the administration of the property tax. Our purpose is to investigate a potential problem involving the equitable imposition of the property tax burden on residents of growing communities. The third intrajurisdictional issue that will be explored is the increasing reliance of growing communities on regressive means of generating public revenue. This trend is best illustrated in the widespread use of user fees.

Interjurisdictional issues involve the problem of externalities as opposed to inequities. These externalities, or spillover effects, could be termed "non-compensated costs or benefits" (Hyman 1973,p.291). They exist because the impact of economic development does not conform to existing political boundaries. Our task here is to describe this problem in Raleigh-Durham. It is manifest, first, within single counties because much industrial development has occurred in unincorporated areas. Since the population growth associated with this development tends to be concentrated in nearby municipalities, these cities and towns have assumed the responsibility of serving these new residents, but without the benefit of the property tax revenues generated by the new plants.

Another manifestation of the externality problem is the peculiar pattern of residential settlement which has emerged pursuant to the development of Research Triangle Park (RTP), a site of tremendous employment growth in Raleigh-Durham since the mid-1960s. Although most of this research and development park is located in Durham County, the majority of people who are employed in RTP reside in Wake County. Thus, RTP firms pay property taxes to Durham County while Wake County, and in particular its municipalities, bear the burden of providing public services to most RTP employees and their families. Prior to exploring this and other interjurisdictional issues, however, we shall examine in greater detail several intrajurisdictional issues.

INTRAJURISDICTIONAL ISSUES

A number of researchers have investigated the degree to which public services are being distributed on an equitable basis within cities. The approach which has most commonly been taken is that of the case study. Using this approach, Jones et al (1980) examined service delivery in three Detroit municipal agencies and determined that service delivery rules had been established by agency officials to assist them in distributing services. This is consistent with the enunciation of an elaborate set of service delivery rules in the Comprehensive Plan developed by the city of Raleigh. As we discussed in a related report (Usher 1981), levels of performance and service quality are clearly specified in these rules and they provide standards for evaluating the delivery of service. The fact that the standards are explicit encourages individuals and groups within the city to compare their status as service recipients with other residents.

Stephanie W. Greenberg is a Research Sociologist in the Center for the Study of Social Behavior at the Research Triangle Institute.

Charles L. Usher is a Policy Analyst in the Center for the Study of Social Behavior at the Research Triangle Institute.

A study of San Antonio by Lineberry (1980) revealed that older neighborhoods of lower socioeconomic status had better access to city services, such as libraries and fire protection, than did newer, higher status areas. This and other analyses tend to contradict the conventional notion that poor areas receive fewer and lower quality services (Antunes and Plumlee 1977); in fact, those neighborhoods may tend to receive more public services. For example, streetlighting standards are met consistently throughout low-income, predominantly black areas of Raleigh, but not in other areas of the city (City of Raleigh 1979). However, such an imbalance would not necessarily imply an inequity if the collective decision of the community was to provide services according to a person's or area's need (Rich 1977, p. 335).

Consistent with this perspective, Whitaker and Mastrofski (1976) have cautioned analysts not to ask simply whether or not the distribution of a service is equitable, but to state clearly the criterion by which such a judgment will be made. Wildavsky (1979, pp. 367-370) has offered three standards for making assessments of equity. They are similar to several criteria suggested earlier by Whitaker and Mastrofski (1976). The first standard is equal opportunity, determining the degree to which every person or neighborhood has received a given level of service. This might also be termed the universal criterion (Whitaker and Mastrofski 1976). Another standard is market equity, or the contract criterion. According to this standard, a person or group of people receive a service at a level which is commensurate with their ability and willingness to pay for it. A third criterion is need, or equal result. Implicit in this criterion is the idea that some persons will require more services or perhaps more intensive service in order for a given outcome to be realized. This standard underlies most redistributive programs.

These criteria were developed to evaluate the equity of service distributions; however, it is obvious that they could be applied as well to the distribution of service costs. From this perspective, the inequity of receiving relatively fewer or lower quality services might be compounded by a person's having to bear a relatively large share of the costs of producing those services. The clearest case of inequity in the distribution of costs is the use of regressive taxes to finance the expansion of services required by growth. Therefore, we shall examine the financing of public services as well as their distribution.

Lupsha and Siembieda (1977) have argued that market equity is the standard by which the delivery of services in the Sunbelt is most often judged. While their hypothesis is not consistent with Lineberry's findings, it suggests that judgments might be made on a basis other than simply the universal criterion. This is important because three unique areas pertaining to the distribution of public costs and benefits of growth within a given jurisdiction will be explored below. First, we shall look at the use of certain regressive measures to finance service delivery in Raleigh and Durham. Second, we shall examine the manner in which the property tax is administered in North Carolina and describe how uniformly inefficient administrative procedures permit inequities to occur. Finally, we shall evaluate the impact of growth on city residents in older areas of the city and compare it to the impact growth has had on suburban residents. Specific attention will be given to their sharing the public costs and benefits of growth.

Financing Public Services Through User Fees

A tax structure can be based on either of two premises. One is that the taxes paid by individual citizens should be based on the marginal benefits they derive from public services. This "benefits approach" contrasts with the "ability-to-pay approach" which is based on a political decision regarding what constitutes an equitable distribution of the tax burden. Since the benefits approach is difficult to implement because of measurement problems most systems are based on the latter approach. From the perspective of the ability-to-pay approach, taxes can be classified as progressive or regressive. Progressive tax rates increase as the value of the tax base (income, property, etc.) increases. Regressive tax rates, in contrast, decline as the value of the tax base increases. Thus, according to values which tend to prevail in the American political system, a tax structure is perceived as more "equitable" if it employs progressive tax rates (Hyman 1973, pp. 148-151).

In order ultimately to realize an equitable tax system, two types of equity must be pursued. If persons of a similar economic status bear a similar tax burden, then "horizontal equity" is said to exist. Assuming that the principle of progressive tax rates has been accepted, "vertical equity" could be said to exist when persons of greater advantage have to devote a larger proportion of their wealth to taxes than do less-advantaged persons (Hyman 1973, p. 151). However, there are no objective standards for determining degrees of equity. The judgement as to whether or not an equitable arrangement exists for financing services is a collective political decision, and one that is often ignored or at least not confronted directly.

It is well known that linkages exist between given public services and the mechanisms used to finance those services (Usher and Cornia 1979). Some services are more prone to being supported by regressive revenue sources than are others. For example, public transit is usually underwritten by the fares paid by riders. Water and sewer services tend to be largely supported by charges to consumers of those services. Other services (education, police and fire protection, refuse collection, etc.) are most often funded from general revenues derived from the property tax. Still another group of services (community development, employment and training, social services, etc.) can be provided primarily because federal funds for such services are available.

These linkages exist partly because of tradition and partly because of the nature of a service, specifically whether it tends to be labor-intensive or capital-intensive. Since growth makes demands on the public infrastructure, its effects are more likely to be detected first in those areas involving large capital outlays. For example, both Raleigh and Durham experienced substantial increases in expenditures for public utilities (water and sewer service) in the early and mid-1970s (Usher 1981). These projects were financed from municipal bond revenues as well as from federal assistance; however, a condition of receiving that assistance was that "enterprise funds" be established in order to keep money used for this purpose separate from other municipal funds. The establishment of such funds also involved setting up user fees which would be earmarked to support the enterprise and pay off the bonds. However, as indicated in the discussion which follows, financing public services in such a manner can spawn a variety of problems.

Until recently the city of Durham engaged in a practice known as "recapping" (Durham, 1980a: xvi). This simply involved combining the meter readings of all meters monitoring the flow of water to a given customer. However, since Durham offered lower rates to high-volume consumers, and until the late 1960s even had a maximum monthly payment (Blumstein 1975; pp. 187-190), the effect was to systematically reduce the costs of water service to those customers. In addition, since charges for sewage service are based on water consumption, those costs also were reduced. Thus, low-volume consumers--mostly residential customers--were bearing the brunt of the costs of water and sewer services.

Instead of establishing a maximum payment for its water customers, the city of Raleigh until recently imposed a minimum charge on its customers, regardless of the volume of usage. The effect of this policy (in addition to not encouraging water conservation) was to penalize smaller households. Furthermore, the rates charged per 100 cubic feet of water declined from sixty-four cents to thirty-eight cents according to a six-step charge schedule. Thus, high-volume customers realized a substantial rate advantage. However, a change in the rate structure in 1981 did away with this plan and replaced it with a two-step rate schedule (sixty-one cents per 100 cubic feet of water for 0-500 cubic feet and thirty-nine cents per 100 cubic feet for more than 500 cubic feet). The new rate schedule also replaced the minimum bill with a monthly administrative charge which is based on the size of the water meter which services a piece of property. Using this approach, the monthly charge for a plant having a six-inch line would rise from $3,150 to $4,085. Thus, on the basis of these changes, the editors of The Raleigh Times praised the new rate schedule in a January 6, 1981 editorial entitled "Fairer Water Rates."

Other illustrations can be provided of the increasing reliance of growing cities on user fees. Although this means of financing public services is most apparent in the area of public utilities (water and sewer services), it has come to be accepted in other areas as well. For example, in addition to increasing the property tax rate in 1980, the Raleigh city council raised fees for the use of recreation facilities and for participation in recreational activities sponsored by the city. Including bus fares, this means that fees now account for 21 percent of the revenues generated in the city of Raleigh (Holtzclaw June 19,1980).

Some economists have argued that the basic regressivity of user fees can be overcome by establishing sliding-scale fee structures (Mushkin and Vehorn 1977, pp. 46-47). They also claim that user fees may be fairer than the traditional source of local funds, the property tax, single low-income persons could avoid them simply by not purchasing services they did not want. However, given the necessity of obtaining water and sewer services and other public services, this argument may have limited application.

In summary,to the degree that growth increases the demand for certain public services, and to the degree that those services are financed by user fees, an inequity could arise. It would amount to low-income families having to bear a disproportionate share of the burden of financing certain public costs of growth.

The Property Tax and Equity in Growing Cities

Raleigh and Durham, like most American cities, still derive most of their general fund revenues from the property tax. The desirability of this practice from the standpoint of equity is unclear since economists continue to debate whether or not the property tax is regressive. If the incidence of the tax is considered relative to average household income over the long term, it does not appear to be regressive (Ebel 1978, p. 6). Employing the general-equilibrium model developed by Mieszkowski (1972), Oakland (1978, p. 117) concluded that "the overall progressivity of the property tax will mirror the incidence of ownership of capital--i.e., fairly progressive." It is also possible to view the property tax as neutral (neither progressive nor regressive) if it is viewed as a "benefit charge" for the public services a property owner receives (Oakland 1978, p. 117).

In spite of these new perspectives on the incidence of the property tax, few theorists fail to acknowledge that the manner in which the property tax is administered can cause it to be regressive (Ebel 1978, p. 6). For example, assessments of property value can be systematically biased in such a way that more valuable property tends to be undervalued (Black 1977). Thus, the regressivity (or progressivity) of the property tax seems to have less to do with the basic nature of the tax than with its administration. Furthermore, as the following case illustrates, the manner in which the tax is administered in North Carolina makes growing communities particularly susceptible to this problem.

An analysis of housing values in Charlotte, North Carolina by the Mecklenburg County Tax Supervisor's office revealed that increases in property value from 1975 to 1978 ranged from 28 percent in one neighborhood to 93 percent in another (Waller 1980). Since property is reassessed only every eight years in North Carolina, and since rapid growth such as Charlotte is experiencing often contributes to inflated housing costs (Ramirez 1980), two problems result. First, the owners of property which is increasing relatively rapidly in value benefit from a lower "effective tax rate" than the assessed value. In Charlotte, for example, low-income predominantly black neighborhoods had the highest effective tax rates while high-income areas had the lowest rates (Waller 1980). Although wealthy homeowners are likely to experience the largest increases in their payments after revaluation, they probably realize a net benefit from this situation.

The second problem arising from this situation is that the city fails to collect revenue to which it is entitled. Again, the only means of addressing these problems is to conduct expensive revaluations more frequently.

The Differential Impact of Growth on Central City and Suburban Residents

The most intensive growth and development of American cities since the end of World War II has been in suburban and exurban areas. Suburbanization in Northern and Midwestern cities usually permitted those living outside the central city to escape the higher taxes there while continuing to use the city as a place for employment, recreation, and cultural pursuits. In contrast to their counterparts in these regions, Sunbelt cities have been aggressive in annexing developed areas on their fringe (Southern Growth Policies Board 1980 and Watkins and Fleischmann 1980, pp. 618-619). However, unlike the image portrayed in much literature (e.g., Harrigan 1976, p. 184), the annexation process in Raleigh-Durham appears to be somewhat noncontroversial and only infrequently does it involve heated battles between central cities and suburbs.

Of the 184 annexation ordinances approved in cities and towns in these ten counties other than Raleigh, Durham, Cary and Garner, 94 were in response to petitions from suburbanites seeking to be annexed.[1] In the town of Cary, so many petitions for annexation are received by City Council that a fill-in-the-blank form has been devised to facilitate the submission of these requests. In Raleigh, the process of annexation has become so routine that it is an integral part of land use planning in that city:

> The orderly growth and development of the Raleigh urban community requires the continual extension of the City Limits as urban development occurs around the edge of the existing community. An annexation plan setting forth a general schedule for incorporation of contiguous developed areas is closely related to the objectives of the Land Use Plan. Land use policies calling for concentration of higher density development must be coordinated with City plans for extension of urban services through the annexation process. The timing and cost of annexations are related to the location and quality of development, which in turn, is influenced by policies in the Land Use Plan. (Raleigh 1979b, p. 54)

Annexation potentially involves two critical issues concerning equity in sharing the public costs and benefits of growth. First, it is possible that the property tax resources in annexed suburban areas could be exploited by central cities. This would occur if the residents of these areas were brought into the city, but not provided the same quantity or quality of public services received by the residents of older areas of the city. The second issue which could arise is that suburban development could be underwritten by central city residents. In this case, the current residents of a city would experience tax increases as a result of extending municipal services to suburban residents who previously lived outside the city. In the two sections which follow, we shall explore both issues more thoroughly.

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[1] It should be noted, however, that residents of one area recently annexed by Raleigh fought the action unsuccessfully in court.

Extending Services to Annexed Areas

The State imposes seemingly stringent requirements on municipalities which intend to annex an unincorporated area (Usher and Greenberg 1981). Basically the requirements seek to guarantee that suburbanites will not be exploited by cities in an attempt to expand municipal tax bases. In our analysis of annexation records on file with the Secretary of State, the minutes of council meetings and annexation ordinances were reviewed to determine the nature of the plans for extending services which are required to be filed. Although the records were not complete and resources did not permit a systematic review, some general impressions of these plans can be offered. First, most cities seem to adopt an "input" orientation to the extension of services. That is, their plans are couched in terms of the level of resources currently committed to a particular activity and the proposed changes in resource levels which will be required to meet the needs of residents in the annexed area. The following excerpt from an annexation ordinance passed by the Town Commissioners of Franklinton, North Carolina on January 23, 1979 is illustrative:

> Services. The Franklinton Police Department, which is currently staffed by six (6) persons and ten (10) auxiliary officers, provides police protection for the Town through automobile patrols, and investigative activities. The department normally has at least one automobile patrol in service twenty-four (24) hours a day. Police patrol activities around the clock are for the purposes of preventing crime, detecting traffic violations and providing rapid response to various emergencies. Police officers also conduct investigations of reported crimes and traffic accidents. Dispatching fire and rescue units is provided by the Police Department.
>
> The extension of police protection to this [annexed] area will be provided by the current staff and equipment. A minimum of additional response time is projected in serving the area proposed for annexation. No deleterious effects to the general welfare of the existing Town and the area proposed for annexation are anticipated by extending police protection services in this manner.
>
> Financing. The expense for providing police protection services will be financed through general fund revenue produced primarily from the ad valorem tax levy in the area to be annexed.

Photo by Priscilla Cobb

A plan adopted by the city of Roxboro on April 8, 1971 discussed service extensions in terms which had an implied output orientation, although the emphasis remains on the resources which were required to implement the plan:

> Garbage Collection. Presently the city has one residential garbage truck serving 5,275 people, which gives a per capita ratio of one to 5,275. The city will purchase one (1) additional packer which will give the city two (2) residential garbage units to serve 6,855 people. The per capita ratio will then be one to 3,427, therefore, the garbage service will be on an equal basis in the existing area. The city presently has a residential garbage force of 4 men to serve 5,275 people. This gives a per capita ratio of one to 1,319.
>
> A new garbage crew will be hired consisting of 3 laborers and one driver which will give a per capita ratio of one to 857. Therefore, the residential garbage service will be equal to that in the existing city.
>
> Commercial garbage can be handled with the existing truck and 3 man crew. Dumpster service can be handled with the existing truck and driver. With the purchase of a new packer and an additional crew, garbage service will be on an equal basis throughout the entire city.
>
> Police Protection. An additional five(5) policemen will be hired and two (2) new police cruisers will be purchased. The present city has a ratio of one policeman per 430 people. With the additional five (5) policemen an annexation ratio of one policeman per 402 people will exist, therefore, police protection will be equal or better than present protection.

The final illustration is not typical of a substantial proportion of the plans on file with the state of North Carolina. In a June 16, 1970 annexation ordinance, the city of Sanford set forth plans for extending service which established explicit performance standards by which it could be held accountable. Police and fire department response times were set at five minutes and residents of the annexed area were guaranteed of having a fire station within two miles of their property. Refuse was to be collected twice weekly. Under the General Statutes (G.S.160A-50), Sanford could be taken to court for failing to meet these standards. In spite of the failure of most plans to set forth planned performance standards, residents of annexed areas are entitled to file claims for redress of grievances they have with regard to perceived disparities in service levels.

Underwriting Suburban Development

City officials in Raleigh-Durham clearly have attempted to minimize the degree to which suburban development is underwritten by central city residents. Perhaps the clearest illustration of this general policy is the manner in which the expansion of the infrastructure in the two cities (water and sewer lines, streets, curbing, streetlights, etc.) has occurred. As amended in February, 1980, Durham's Urban Growth Policy now requires developers to construct streets according to state standards as a condition for receiving water and sewage services. This is in addition to the requirement that provisions for public water and sewer service be included in the development. That same policy attempts to discourage residential development outside the so-called urban growth area through large-lot zoning (minimum 30,000 square-foot lots).

A similar practice in Raleigh also has the effect of passing the costs of development directly to residents and firms in the suburbs. According to our interviews with planning officials and developers, developers who desire water and sewer service in the city's extraterritorial jurisdiction must pay for the extension of lines to the area being developed. However, a ten-year contract is signed between the city and the developer under which an "acreage fee" of $300 per acre is charged to new customers who tap into the line between the point of origin of the extension and the developer's property. These fees are placed in trust and if any funds are collected within the ten-year period,the developer is reimbursed for a portion of the initial costs of extending the lines.[2] Also, until the area is annexed, water customers must pay double the cost of service inside the city.

As indicated above, developers in Raleigh-Durham are required to build into their suburban developments many facilities which formerly were provided through capital outlays by the cities. These include streets, curbing, sidewalks, water and sewage lines, and streetlights. This is usually accomplished by the cities using their authority to control development in their extraterritorial jurisdictions. However, a further extension of this principle is the recent effort by Wake County to encourage developers to include parks and recreational facilities in their developments (Tompkins November 8, 1980).

In spite of these efforts to minimize the costs of suburban expansion to residents in the central city, our interviews with informed observers revealed some dissatisfaction. One complaint voiced by several advocates of controlled growth was that the policy encouraged haphazard development which imposed a strain on public facilities. For example, streets that once served as feeders for older neighborhoods had to be expanded into thoroughfares which could handle the heavy flow of traffic to and from suburban areas. Another complaint was that city officials hastened the decline of downtown commerce in Raleigh by permitting the expansion of infrastructure which was necessary for the development of suburban shopping centers.

An important cost of suburban development that is shared by central city residents is the debt-service expense associated with the large bond issuances which have been used to finance water and sewage treatment facilities. Both Raleigh and Durham have undertaken multi-million dollar capital improvement programs since the early 1970s. Since the cost of such expansion is borne by all city residents in the forms of higher property taxes and water bills, residents of older neighborhoods must share in this cost. However, suburban city residents in turn contribute to the renovation of facilities which primarily serve the older sections of the city.

INTERJURISDICTIONAL ISSUES

In this section our attention will turn away from intrajurisdictional inequities and toward externalities involving two or more governmental jurisdictions. The basic problem we shall address is the fact that the impact of population growth and industrial development is not limited to a single jurisdiction. Thus, one jurisdiction may bear a disproportionate share of the costs of growth while another acquires benefits which far outweigh the costs it incurs.

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[2] One developer we interviewed in Raleigh indicated that he usually was able to recoup 100 percent of this cost in smaller developments; however, in at least one case, a large residential development relatively far from the city limits, he received reimbursement for only about 60 percent of the initial cost.

This problem will be examined on two levels. The first level involves the relationship between a county and the municipalities which exist within its boundaries. We are particularly concerned with the set of circumstances which has prompted tax increases in Raleigh, Durham, and other municipalities in the area while Wake County and Durham County are realizing large budget surpluses. The other issue involves the effects on other counties and their municipalities of development in a given county. We shall illustrate the problem in this area using the case of the Research Triangle Park, a research and development (R & D) park which has been developed in Durham County.

The Distribution of Tax Benefits Within a County

Included in the 1979-1980 Fiscal Year Budget of the town of Cary (Wake County) was a discussion of how an increase in tax rates could be avoided (pp. 112-113). The optimal solution, according to Cary town administrators, would be to produce an increase of $136.5 million in the tax base. However, the author added that "this $136,500,000 would have to be non-residential so as to minimize the cost of expanded town service delivery systems" (p. 113).

At a meeting of the Cary Town Council on November 13, 1980, the Cary Economic Development Council proposed rezoning a tract of land for industrial purposes in order to attract new industry. This would have the effect of expanding the town's commercial and industrial sectors which currently account for only 23 percent of its tax base (Jones 1980). On November 18, 1980, an article entitled "Pa. company to build research facility near Cary" appeared in the Raleigh News and Observer (p. 22). Although announcement of the construction of such a facility would seem to be welcome news, the key word in the title is "near".

While Cary is likely to realize some indirect benefits from the secondary processes of residential and commercial development, this new industry will not increase Cary's tax base, and therefore its revenues, unless it chooses to locate within the town boundaries. Furthermore, in spite of their authority to annex industrial areas on their fringe, municipalities in the Raleigh-Durham area seem reluctant to do so. This is in spite of research (ACIR 1973; Schmenner 1980) which indicates that the effect of property taxes on industrial location has been exaggerated.

Although Cary might not realize direct tax benefits from this new research firm, Wake County most assuredly will. This is one reason why county governments can contemplate tax cuts while municipalities are seeking ways to minimize tax increases. The aggregate effects of this situation are illustrated below.

Table 1
Assessed Value of Property *
(Millions of 1972 dollars)

	1960	1965	1970	1975	1979
Durham County	$764	$1138	$1174	$1171	$1307
% in Durham	53%	42%	49%	62%	57%
Wake County	$486	$837	$1109	$2301	$2984
% in Raleigh	55%	57%	59%	54%	48%

* Source: Tax offices in Durham, Durham County, and Wake County; Raleigh Chamber of Commerce.

The above data reveal a very significant expansion of the tax base of Wake County, substantially greater than the rate of growth in Durham County's tax base. However, the proportion of the tax bases which lies within city boundaries has fluctuated significantly since 1960. After a period in which its share of resources declined, Durham experienced a resurgence in the mid-1970s and then another slight decline. Raleigh, on the other hand, has lost ground relative to Wake County as the tax base in that county has increased.

This fluctuation in the proportion of assessed valuation within city limits is due largely to two factors. One is the relatively aggressive annexation policy pursued by cities in North Carolina. As a result, while Wake County, for example, gained almost 72,000 new residents between 1970 and 1980, three of its municipalities (Raleigh, Cary, and Garner) experienced population increases amounting to 45,500 people. The other factor is a pattern of industrial development that has emerged throughout the state in which new plants tend to locate in unincorporated areas (Troxler 1981). For example, 11 of the 18 large (20 or more employees) manufacturing firms established in Wake County since 1970 are located outside municipal boundaries (N.C. Department of Commerce 1980). It is within this context, therefore, that the data presented in Table 2 must be interpreted.

Table 2
Manufacturing Establishments With
20 or More Employees*

	1967	1972	1977
Durham County	52	54	56
% in Durham	90%	82%	75%
Wake County	85	99	110
% in Raleigh	54%	53%	50%

*Source: Bureau of the Census, Census of Manufactures, 1967, 1972, and 1977.

In light of the data in Table 1, the information in Table 2 suggests two possible conclusions. First, residential and commercial development in Durham pursuant to industrial expansion in unincorporated areas might account for the increased proportion of the tax base which Durham shared with Durham County in 1975 and 1979. An alternate explanation is that Durham responded to its loss of five large manufacturing firms and the unincorporated county's nearly three-fold gain in establishments by annexing areas of residential and commercial development.

The number of large manufacturing firms in Raleigh, on the other hand, grew at a rate of 19.6 percent between 1967 and 1977, while the number of large manufacturing firms in unincorporated Wake County grew by 41 percent. Yet, in spite of the fact that Raleigh has substantially expanded its land area over the past 20 years, a large proportion of that annexed territory would seem to have been residential property. As the Cary budget noted, that type of development is relatively more expensive to serve and relatively less productive in terms of property tax revenues. However, Wake County enjoys the tax benefits of all types of development--industrial, commercial, and residential.

If our assumption is correct that cities and towns are not benefiting directly from industrial development, two courses of action might be considered. The first alternative is for municipalities to annex industrial areas as aggressively as they have residential developments. However, this approach flies directly in the face of the common perception that such actions create an unfavorable "business climate." As a result, local officials are not likely to pursue it.

The second alternative is for counties formally to redistribute a share of their tax revenues to municipalities, perhaps according to residential patterns of employees who work in the county. This would also encounter resistance since it would require radically altering the prevailing perspective of growth. It would require public officials to view growth in terms of the public-sector costs generated by expansion in the private sector instead of adopting a view which emphasizes its positive effects on the public sector.

Interjurisdictional Impacts of Development--Research Triangle Park

The founding of Research Triangle Park (RTP) in the 1950s by the State of North Carolina resulted in the creation of 16,000 jobs for the Raleigh-Durham area by the end of the 1970s (Triangle J Council of Governments 1980, p. 3). Located approximately eight miles from downtown Durham and eighteen miles from Raleigh, RTP is situated almost entirely within Durham County. However, officials of the Research Triangle Foundation who manage RTP have estimated that 60 percent of the RTP work force live in Wake County, and that 80 percent of new workers who come to work there are likely to choose to live in Wake County rather than Durham County or Orange County. This means that approximately two-thirds of the payroll at RTP firms is spent in Wake County.

The reason that this residential pattern exists, according to informed observers, is that Raleigh, and later Cary, had sizable inventories of moderately priced homes in socially homogeneous neighborhoods. Durham, in contrast, was said to have only expensive homes or run-down homes, both of which were often in close proximity to one another. Regardless of the reasons, however, it seems apparent that a large proportion of the residential and commercial development growing out of the establishment of RTP has occurred outside Durham County.

This pattern of development has important implications for decisions about who must bear the costs of public services demanded by RTP employees. For example, Durham County realizes the most direct public benefit of RTP, the substantial property tax revenues generated by firms located there. Yet, the greatest indirect cost imposed by those firms--the public services demanded by their employees--are borne by other jurisdictions, including Raleigh, Cary, and other areas of Wake County, as well as the City of Durham. Given that individual counties and the towns and cities located in them find it difficult to redistribute property tax revenues, it is very doubtful that local governments in two or more counties could arrive at an equitable arrangement.

A factor which has tended to offset the effects of this situation for Wake County has been the coincidental development of the Shearon Harris nuclear plant near Apex. Unlike residential, commercial and industrial property, property owned by public utility companies is revalued on an annual basis. As a result, new construction at this as-yet-unopened facility adds substantially to the Wake County tax base each year. To illustrate, between 1976 and 1980 the value of real property in Wake County increased by 82 percent while the value of property owned by public service companies increased by 142 percent. Furthermore, the property of these companies now represents almost 14 percent of the total assessed valuation of property in the county, an increase from 10.1 percent in 1976 (N.C. Department of Revenue 1980, pp. 226-229). However, this tax benefit accrues only to Wake County since the Shearon Harris plant is not located within the boundaries of any municipality.

Perhaps the only direct benefit to the city of Durham in having RTP nearby is the share of housing and business it has generated within the city limits. Since the city provides water and sewer services to establishments in RTP, it does derive fees for those services; however, Durham residents had to underwrite the extension of service to RTP by passing a bond referendum. Therefore, unless a significant change occurs in the pattern of residential and commercial development associated with the Park, the city of Durham might realize a net loss in providing those services. Again, although it is a legal alternative, annexation of RTP by Durham is politically infeasible, at least from the perspective of some high-ranking city officials who have been interviewed.

SUMMARY AND CONCLUSIONS

This paper has examined the distribution of the public costs and benefits of growth on two levels. The first level involved intrajurisdictional issues, i.e., the degree to which costs and benefits were distributed equitably among the residents of a single jurisdiction. In this area it was found, first, that growing cities such as Raleigh and Durham are becoming increasingly reliant on user fees, a regressive form of taxation. It was also determined that rapidly growing cities in North Carolina tend to confer a tax benefit on wealthy residents (in the form of lower effective tax rates) because property is revalued only once every eight years. Finally, it appears that in spite of their liberal annexation powers, cities in North Carolina have not exploited residents in suburban developments, nor has that development been underwritten heavily by the taxes of residents of older neighborhoods in the central cities.

The other issues examined were interjurisdictional in nature. One issue concerned the fact that counties have experienced significant increases in property tax revenues as a result of the inclination of industrial firms to build new plants in unincorporated areas. At the same time, towns and cities in these counties, following the prevalent pattern among cities in North Carolina, have annexed suburban residential developments which were brought about by the new industry. The net effect has been a maldistribution of the public costs and benefits of growth, with a disproportionate share of the tax benefits of new development accruing to the counties, while municipalities are incurring the responsibility of serving a growing number of new residents. However, it appears that a delayed response of the counties may be to assume a larger role in providing certain services.

Another interjurisdictional issue we examined involves the effects of industrial development in one county on governments in other counties. To illustrate this problem, we described the residential settlement pattern that has emerged with the development of the Research Triangle Park (RTP). While this particular situation also entails the intrajurisdictional issue we just described, the fact that two-thirds of the employees of RTP firms live outside Durham County implies that jurisdictions outside the county are providing public services to RTP employees without deriving the tax benefits associated with the plants in which they work.

Accepting the arguments advanced in this paper requires that the reader accept the notion that economic development does, in fact, impose costs on the public sector. Furthermore, at a given point in time, those costs may outweigh the benefits derived from that development. This occurs in spite of the secondary and tertiary effects of economic development (e.g., increased income tax revenues and state aid to local governments), and in spite of the fact that new industry contributes directly to increased tax revenues. The imbalance in the distribution of public sector costs and benefits arises not from the failure of new industry and residents to pay taxes, but from the failure of government--local, state and federal--to use tax revenues efficiently; i.e., to allocate, or reallocate, revenues to jurisdictions according to the need for public services.

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