

A New Job Map for the Philadelphia Region

*By John Gruenstein**

The term 'suburb' used to be synonymous with 'bedroom community' for many people. Suburbanites were pictured as members of a breed who hopped onto trains or into cars in the morning and traveled together to the central city where they worked, returning home at night for board and bed.

Although this simplified picture of the metropolis may have been fairly accurate at one time, it has been made obsolete by the growth of employment in the outlying communities that surround America's largest cities. And the city-suburb stereotype that has replaced it in many people's minds—one of suburban employment spread through rings of diminishing density around the high-density city—also fails to convey a full picture

of the current employment landscape. Instead, a job map marked by suburban clusters of activity has emerged, shaped by the interaction of public and private initiatives. Some suburban residents have begun to ask what the future may hold. Will the outward sprawl continue? Will it level off? Or, perhaps, will the central city begin to recover its lost businesses and residents?

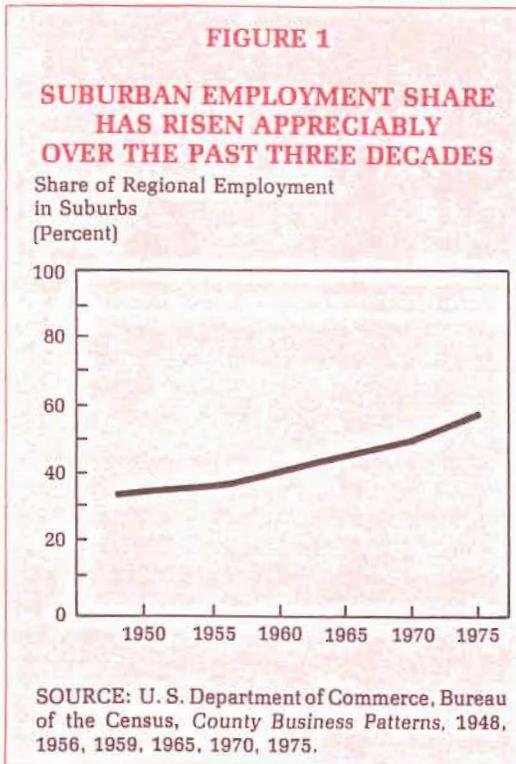
JOBS IN THE REGION: DECENTRALIZED BUT CONCENTRATED

If the proverbial crow flew straight out in almost any direction from Philadelphia's city hall, it initially would find heavy concentrations of jobs and then fewer and fewer jobs per acre of land the further it went. As a first approximation, our aerial observer might think it saw concentric circles of declining employment density. But here and there along the route the astute bird would notice

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some fairly sizable employment concentrations standing out amidst the greenery, some of them a goodly distance from William Penn's hat.

The ringlike effect has resulted from a long historical spread of jobs outward through the region,¹ and this trend toward decentralization has continued over the past few decades. The suburban share of the region's jobs rose from about 30 percent in 1948 to around 57 percent by 1975 (Figure 1).



Overlaid on the rings is an uneven scattering of employment in suburban townships, boroughs, and cities—Minor Civil Divisions or MCDs, as the statisticians call them. In

¹The region is the standard metropolitan statistical area (SMSA) comprising Philadelphia, Bucks, Chester, Delaware, and Montgomery counties in Pennsylvania and Burlington, Camden, and Gloucester counties in New Jersey.

1970, half of all suburban jobs were found in about 30 communities—that is, in fewer than 10 percent of all the 337 MCDs in the Philadelphia region. And since these MCDs comprised less than 10 percent of the suburban land area, most places with a lot of jobs also had a higher density of employment—more jobs per acre—than other areas (Figure 2).

Some of these clusters are in places that grew more or less independently of Philadelphia at first but since have been swept up by metropolitan expansion. Even within the present city limits examples of this process stand out: the once independent towns of Manayunk, Frankford, and Germantown became city neighborhoods when Philadelphia expanded to its current boundaries in 1854. Not far across the city border, Norristown, Chester, and Camden started off somewhat on their own but have been drawn within the orbit of their large neighbor. And some newly developed centers, like King of Prussia and Cherry Hill, have grown up in recent years within Philadelphia's sphere of influence.

Thus jobs have spread out from the central city to the rest of the region and have clustered into semiurban groupings. The result has been a relative loss of jobs and tax base in the central city and corresponding gains in the suburbs. These gains, however, have come at the price of increased congestion, crime, and demand for services in some areas that mimic conditions in the central city itself.

TRANSPORTATION AND TAXES HELP SHAPE THE MAP

Many influences contribute to shifts in employment location. Some are basic forces about which policymakers can do very little. But in other areas government policies have combined with changes in technology, taste, and social behavior to shape the present job map. The prime such area of public-private interaction is transportation, which clearly dominated the region's early development.

FIGURE 2

**SUBURBAN EMPLOYMENT AROUND PHILADELPHIA IS CONCENTRATED
IN A FEW RELATIVELY LARGE, DENSE CLUSTERS**

Number of Employees	Number of Suburban MCDs	Percent of Suburban MCDs	Percent of Suburban Jobs	Percent of Suburban Land Area	Average Employment Density (Employees per Acre)
20,000 or More	7	2.1	21.2	2.8	4.6
10,000 - 19,999	16	4.7	22.9	4.8	3.3
5,000 - 9,999	25	7.4	17.8	6.8	2.6
2,500 - 4,999	50	14.8	18.2	10.2	2.5
1,000 - 2,499	83	24.6	13.5	24.5	1.4
500 - 999	56	16.6	4.2	17.0	1.1
Fewer than 500	100	29.7	2.3	34.0	0.3
All Suburbs	337	100.0	100.0	100.0	0.5
Philadelphia	---	----	----	----	10.9
All SMSA	---	----	----	----	0.9

For each employment range group, density is the average for all MCDs in that group. For All Suburbs, Philadelphia, and All SMSA, density is the total employment divided by the total land area.

The City of Philadelphia had a much higher density than any MCD, with just about twice as many employees per acre as the MCDs in the group with 20,000 or more employees. But the differences among MCDs themselves were just as great. The largest averaged close to twice the economic density of the communities in the middle groups—2,500 to 9,999 jobs—and more than fifteen times the density of the towns with the least employment—those with fewer than 500 jobs.

SOURCE: 1979 Employment Location File and 1970 Land Use File, Delaware Valley Regional Planning Commission.

Employers Are Attracted by Transportation. . . The convergence of rivers and rail lines in Philadelphia strongly stimulated the concentration of employment in the city. Prior to the twentieth century, water routes and railroads were the cheapest means of moving both freight and passengers. Thus firms which relied on deliveries of heavy materials tended to concentrate in areas near ports and railroad terminals like downtown Philadelphia. Downtown was the ideal spot

for retail stores, too, because more people could get to them there, and also for banks, insurance companies, law firms, and other businesses which relied heavily on face-to-face contact and quick access to current information.

When everyone wants to be in the same place, however, competition dictates that some will be crowded out. So outlying locations along rivers and railroads also were favored by businesses, and even current

maps of the area show fingers of high employment density reaching out along the Schuylkill and Delaware Rivers and along railroad lines to the North and West, reflecting the persistence of much older patterns (Figure 3).

Transportation to outlying areas became cheaper and faster with the advent of electrified street cars in the late 1800s, trucks and cars in the first half of the twentieth century, and the Federally subsidized Interstate Highway Program after World War II. As a result, areas that once were too far out to have strong ties to the city or hadn't the good fortune to be located on a river became more easily accessible. Heavy trucks rumbling along tax-supported highways began to offer firms the option to develop away from rail lines and waterways. Movement to locations where land cost less, because there was more of it and competition for it wasn't as heated, now became possible. Firms were trading cheaper land for a greater separation from the center; transportation costs were higher, but not so much higher as they would have been without highway subsidies. And improvements in communications technology made it possible to transmit most kinds of information without physical movement, thereby further freeing many types of businesses—nonmanufacturing as well as industrial—from having to remain downtown.

. . . **And Tax Advantages.** In more recent years, tax and service packages seem to have become more important influences on industry location choices, as the constraints imposed by transportation routes have weakened. Many suburban centers offer relatively high levels of services such as police and fire protection at relatively low cost. And they may spend less on such services as welfare and health care, which probably carry little direct benefit to business. New firms coming into the area or old firms seeking a new location probably shop around to some extent for the combination of taxes and services that will suit their requirements most closely. So a favorable tax and service package can

have a direct effect on business location decisions and the topography of the job market.²

And So Are Employees. Many of the considerations that draw employers into the suburbs bring their workforces out, too. By the end of World War II, more and more people already were living in the suburbs, partly because of easier and cheaper transportation over subsidized roads and partly because of rising incomes which increased the demand for spacious yards and newer houses. Government tax and housing policies encouraged this trend. The new suburbanites represented both a market for products and a labor force of skilled workers, providing another reason for the decentralization of firms of all sorts.³ Thus the conditions that influenced residential patterns had an indirect effect on employment location as well.

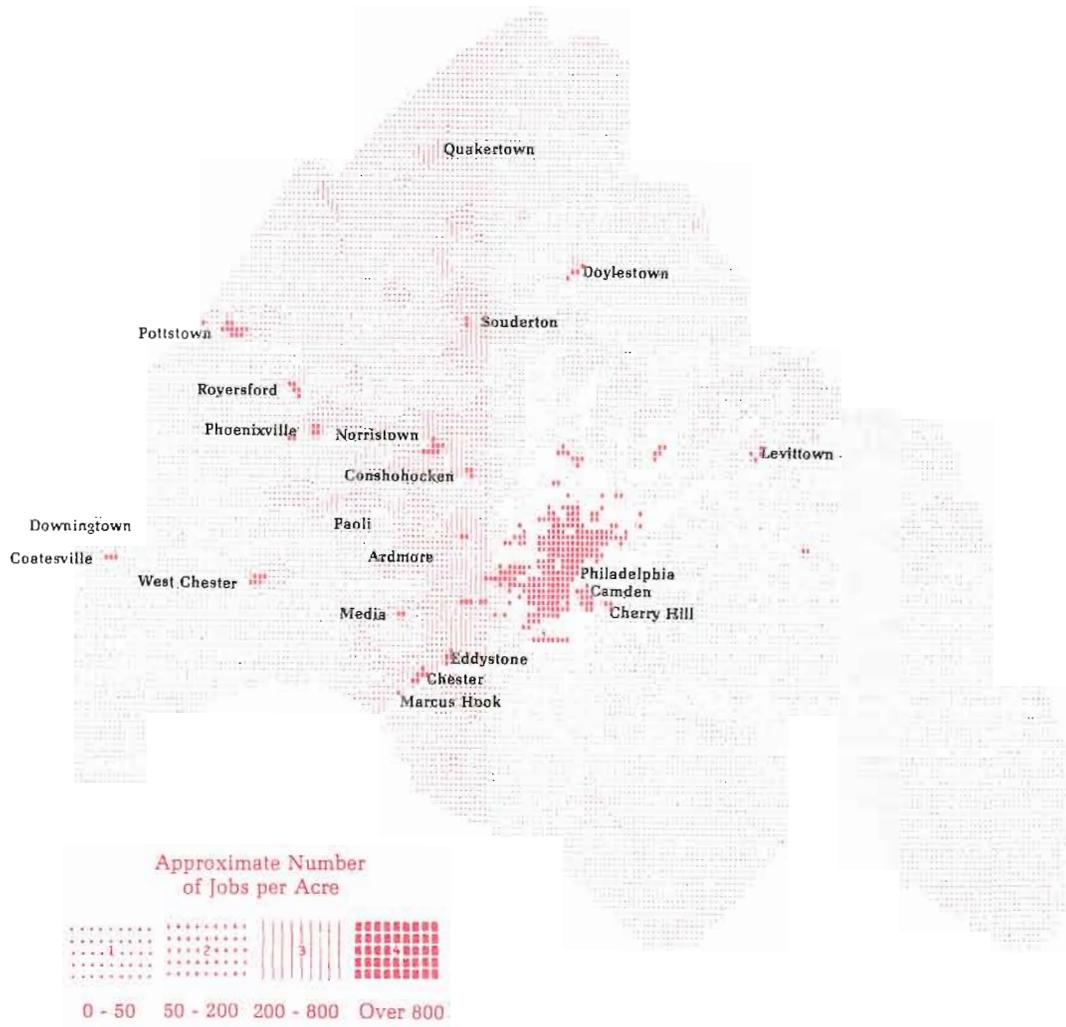
Although the movement of population out of the central city started earlier and proceeded at a faster pace than the movement of jobs, both trends have been operating since

²This shopping behavior probably works among individual suburban communities as well as between city and suburb. Just how large this effect is compared to other factors is a matter of debate. Some observers view the effect as marginal when compared to more basic forces. Others disagree. In addition, as the suburbs become more urbanized they need to deliver more city-like services and consequently taxes may tend to rise. Finally, other local government policies, like zoning and other land-use restrictions and incentives such as tax abatements and land acquisition programs, can affect location decisions.

³Just as the overall movement of the population to the suburbs seems to have drawn jobs along with it, so, too, the pattern of employment location among different suburban towns appears to be sensitive to residential patterns. This effect works both ways, of course; jobs draw people as well as the other way around. For an example of a location model which demonstrates the simultaneous interaction of jobs and people, see Walter D. Fisher and Marjorie C. L. Fisher, "The Spatial Allocation of Employment and Residence within a Metropolitan Area," *Journal of Regional Science*, December 1975, pp. 261-276.

FIGURE 3
EMPLOYMENT REACHES OUT ALONG RIVERS AND RAIL LINES

Philadelphia and Surrounding Counties
(Standard Metropolitan Statistical Area)



SOURCE: Data compiled and plotted by Federal Reserve Bank of Philadelphia

at least as far back as the middle of the nineteenth century and probably even earlier for most cities, including Philadelphia. The trend toward employment decentralization has been the result of a long process of change in transportation and government tax policy as well as in production technology and other areas (see **NATURE AND TECHNOLOGY . . .**). The role of transportation has been that of a constraint: firms need to be in accessible locations. As the accessibility of many noncentral areas has increased, partly as a result of highway subsidies, the grip of the central city has been loosened and other factors have come to play a greater role in setting employment patterns in the region.⁴ How will these factors affect the future of employment location patterns? And how will changes in these patterns affect the framework for policy decisions?

THE FUTURE PATTERN

It seems most likely that suburban job

⁴An excellent discussion of the long-term nature of the trends toward employment and population suburbanization can be found in Edwin S. Mills, *Studies in the Structure of the Urban Economy* (Baltimore: Johns Hopkins Press, 1972), chapters 2 and 3. For the impact of Federal policies on the process see Roger J. Vaughan, *The Urban Impacts of Federal Policies: Volume 2, Economic Development* (Santa Monica: RAND Corporation, 1977).

growth will continue to outpace the city's. Still, urbanologists find plenty of room to disagree about the shape of cities to come. At least three scenarios seem possible—suburban sprawl, downtown redevelopment, and the many-centered metropolis.

Sprawl. Some observers favor the big bang theory of urban growth, which says that factories, offices, shops, and houses will spread explosively over a larger and larger area. They stress that continuing improvements in transportation and communication will reduce the importance of physical proximity as a factor influencing location decisions. Thus, they argue, further suburban sprawl—low-density, patchwork development—is the likeliest end result, at least in the absence of strong government intervention to change it. In this scenario, jobs and people eventually wind up spread thinly and evenly throughout a greatly expanded metropolitan area.

Recentralization. Other watchers of the urban scene sense the winds of change starting to blow in a different direction—inward and back to the city. One source of this implosive movement is the rise in the cost of fuel, which encourages businesses and residents to cut transportation costs. Another source is changing demographics. The shift

NATURE AND TECHNOLOGY AFFECT LOCATION CHOICES

There are some location factors that governments can do little to change.

Sometimes *natural advantages* have been the lure. The iron and steel industry was attracted to Pottstown and Phoenixville along the Schuylkill River, for example, by deposits of iron ore located near forests which could be used as a source of charcoal for smelting. Fast-flowing streams, even when not navigable, once turned mill wheels to make flour, paper, gunpowder, and other products throughout the Delaware Valley.

Changes in *production technology* and the consequent obsolescence of old structures and equipment also have had an effect. The trend toward decentralization has been reinforced by the desire to locate in single-story plants spread out over large land areas which facilitate modern methods of materials handling and processing. Such plants are cheaper to build in outlying areas, where large lots can be acquired at relatively low cost. Thus, with the passage of time, many multistory buildings which were crowded together to conserve scarce downtown land have lost out as manufacturing sites.

toward smaller households could result in lower demand for single-family houses on large lots and higher demand for more compact living accommodations. Further, as the two-worker family becomes more common, husbands and wives may place a higher value on the time they both spend traveling to work, shops, and entertainment. And they may be more interested in the amenities traditionally associated with downtown living. Changes in some Federal government policies which reduce the incentives for low-density suburban development also have been cited as helping to strengthen a back-to-the-city movement.

Some indications of such a movement already have been seen in many cities, including Philadelphia, where recent years have brought the development of the Gallery shopping mall, the revitalization of downtown neighborhoods like Society Hill, and the first reversal of the loss of jobs in about a decade. But although in *absolute* terms Philadelphia's employment decline may have bottomed out, few, if any, would argue that the *relative* standings of city and suburban growth patterns are likely to change.

The Many-Centered Metropolis. A third group, including such scholars as Werner Hirsch of UCLA and Peter Muller of Temple University, contends that the likeliest course of events is neither total explosion nor total implosion but the advent of another kind of urban form—the multicentered metropolis. Centers in outlying areas would function as suburban downtowns and would attain a sufficient size, density, and variety of activities to rival the central city in economic and political clout. Such relatively high density arrangements already have begun to coalesce. Industrial parks, regional shopping malls, and office parks have been drawn almost invariably to locations adjoining highway interchanges. As time has passed, the prestige of such locations has grown, and the increased availability of business services and conveniences for workers, executives,

and shoppers has reinforced previous growth. Finally, the same higher energy prices and changes in family structure that have stimulated some movement back to the city may be even more important in promoting higher densities and increased clustering of activities in *suburban* areas.⁵

It isn't easy to tell whose crystal ball is the clearest, and all three viewpoints probably contain a grain of truth. In some ways the multicentered scenario seems the most likely to succeed, since clear suburban employment concentrations already are in place and have been for some time. But these have a long way to go to approach Philadelphia's order of magnitude.

Some evidence which may shed light on future growth patterns is available in Federal and state census tabulations. These figures show suburban MCDs of large and medium employment size growing faster than the city of Philadelphia in population and retail employment and losing jobs in manufacturing at a slower rate (Figure 4 overleaf). And although not doing as well in manufacturing and population as smaller suburban places on average, the medium-sized MCDs have had the largest percentage gains in retail employment (except for the under-500 employment group, which started from a very small base). Furthermore, one group of medium-sized MCDs—the one with 5,000 to 9,999 employees—has had a very high average population growth rate. This evidence suggests that even if extremely large centers don't emerge, concentrations should persist in the Philadelphia region and complete sprawl is unlikely.

Looking behind the averages, it's clear that

⁵The possibilities for future multicentered metropolitan development are outlined in Werner Z. Hirsch, "Energy and America's Changing Urban Settlement Pattern" (Los Angeles: RAND Corporation, 1976); Peter O. Muller, *The Outer City: Geographical Consequences of the Urbanization of the Suburbs* (Washington: Association of American Geographers, 1976); and "The Suburbs are Winning, Professor Claims," *Philadelphia Inquirer*, August 17, 1978.

suburban development continues to be uneven. While some centers have been growing quickly, others have been losing employment and population. In recent years, many of the older centers like Chester, Camden, and Norristown have suffered from the same problems as larger central cities—loss of manufacturing and retail jobs followed by relatively high unemployment and a shrinking tax base, outmigration of the relatively affluent while the poor stayed behind, and decay of residential, commercial, and industrial structures.

Thus the same social, economic, and technological shifts that have led to decentraliza-

tion have produced mixed results in the suburbs. Some MCDs have prospered because of these shifts and with the aid of government-sponsored initiatives in transportation and other areas. But others, especially those with older or decaying infrastructures, have failed to keep up. Recognizing this unevenness is a prerequisite for promoting efficient and equitable development in the future.⁶

⁶Four different patterns ranging from sprawl to re-centralization are discussed in *Alternative Futures for the Delaware Valley, Year 2000* report no. 4 (Philadelphia: Delaware Valley Regional Planning Commission, September 1976).

FIGURE 4
PHILADELPHIA SUBURBAN EMPLOYMENT AND POPULATION
SHOW UNEVEN GROWTH PATTERNS

Clusters by Number of Employees 1970	Average Annual Percent Change		
	Manufacturing Employment 1970-1975*	Retail Employment 1967-1972 †	Population 1970-1975 ‡
20,000 or More	-1.1	3.0	-0.7
10,000 - 19,999	-2.5	9.1	0.7
5,000 - 9,999	-2.9	9.5	12.4
2,500 - 4,999	-1.7	6.6	1.3
1,000 - 2,499	-0.4	6.8	1.7
500 - 999	-0.4	7.2	1.9
Fewer than 500	-0.6	2.4	2.7
All Suburbs	-2.3	2.1	0.6
Philadelphia	-6.7	-1.3	-1.3
All SMSA	-4.1	4.6	-0.1

*Includes all MCDs in the Pennsylvania portion of the SMSA as listed in Pennsylvania Department of Commerce, *County Industry Reports*, 1970 and 1975.

† Includes all MCDs with more than 2,500 inhabitants as listed in U.S. Census of Business, *Retail Trade*, 1972.

‡ Includes all MCDs in the SMSA, except Philadelphia, as listed in U.S. Census Bureau, *Current Population Reports*, 1977.

POLICY SHIFTS IN THE OFFING?

Whether suburban employment clusters end up as large cities or as something more modest, the new job map will affect the way local suburban governments provide services, raise revenues, and interact with higher levels of government. As the suburbs become more like the cities they surround, suburban officials increasingly will find themselves dealing with questions of transportation policy, tax policy, and Federal assistance that once were faced mainly by their big-city counterparts.

Mass Transit. As they become more dense, suburban employment centers could increase traffic congestion on some roads and highways. One possible policy response is to build more highways. Another is to try to disperse employment. But a better approach may be to upgrade mass transit—an option often favored by large cities. For suburban areas, upgrading probably would mean improving bus service, perhaps through more express bus lanes, and developing other forms of highway-oriented mass transit, like jitneys. For while the clustering of suburban employment by itself would make the development of mass transportation more efficient, so too the emergence of transit systems to link suburban employment centers would encourage an efficient pattern of growth.

Further, such systems could produce significant social benefits such as reduced congestion on highways, less pollution from automobiles, and better transportation for those who have no access to cars—the elderly, children, and the poor. Also, greater use of mass transportation and shorter automobile trips because of higher densities could promote the achievement of national energy conservation goals. Thus a policy decision to improve suburban mass transit could enhance the attractiveness of the multicentered metropolis as a format for regional growth.

Local Taxes. As suburban employment centers grow, legislators who represent them may come under heavier pressure to shift

more of the tax burden to commuters and other travelers between suburbs by means of a variety of taxes. In the past, the tax issue has been looked at mainly from the city-vs.-suburb point of view. It has been asked, for example, whether the Philadelphia wage tax should be lower for commuters than for people who both work and live in the city. But the growth of suburban employment centers now poses a similar question for groups of outlying sites.⁷

The question is a complicated one. Benefits and taxes can flow back and forth among a large number of suburban communities, as well as between the central city and the suburbs, and to and from places outside the region. With more and more people living in one suburban municipality, working in another, and shopping and seeking recreation in yet others, the quantity of public services provided to nonresidents—services such as street maintenance and police protection—will increase. But although benefits spill over to outsiders, taxes do, too. Direct taxes, like a wage tax, are the most straightforward examples, but taxes can be exported indirectly as well. Business property taxes, for example, ultimately must be paid by consumers, employees, stockholders, and landlords in the form of higher product prices and lower wages, profits, and rents.

⁷New or increased taxes which are intended to shift resources from one municipality to another could be justified on the basis of economic efficiency to the extent that they would allocate costs of services to the users of those services. Some proposals have been made with this aim for Pennsylvania, where currently, for all communities outside Philadelphia, an earned income tax paid to one's place of residence is credited against a tax of the same kind levied by one's place of employment. Senate Bill 943, for example, which was introduced into the Pennsylvania Senate in 1977 and still is pending, would allow municipalities to levy a maximum \$25 municipal services tax on all employed persons. Another proposal, advocated in 1969 by the Pennsylvania Economy League, would allow a 50-50 split between place of employment and place of residence in the earned income tax. Both Senate Bill 943 and the Pennsylvania Economy League envisage property tax relief as one of the goals of the proposed changes.

So in response to the changing job map, suburban policymakers may well try to charge users, through taxes, for the local public services they use, regardless of where they reside. But such a program must be carried out carefully, with full regard to the way in which costs already are being shared through both direct and indirect taxes.

Federal Aid. Just as changes in local tax policy need to be made with a clear view of emerging employment patterns, Federal policies also should attempt to accommodate themselves to uneven suburban development. In the past, medium-sized cities in decline have suffered from relative neglect by the Federal government, which has focused mainly on the difficulties of the big cities. But recently enacted and proposed programs for urban areas, such as the Urban Development Action Grants program, passed in 1977, and a number of other urban policy initiatives currently under consideration, use guidelines for allocating funds which are intended to include medium-sized cities as well as large ones, in order to assist disadvantaged people wherever they reside. Political pressure from increasingly powerful suburban legislators has helped to bring about this shift. But so has the more widespread realization that people, not places or jurisdictions, should be the beneficiaries of Federal aid.

Furthermore, the Federal government has proposed to reevaluate programs which have worked against older cities, such as subsidies for water and sewer systems in newly developing areas. The rationale is to take advantage of in-place facilities as much as

possible. Action along these lines could rescue public capital, like sewer and water lines, and private capital, such as abandoned factories and houses, which may have been undervalued by the market or slighted by past tax policies. This proposal has been interpreted by some observers as a program for large cities only, but it is likely to benefit some older high-density areas outside the central city as well.

So Federal, state, and local policy can interact in complex ways to affect patterns of employment growth. In turn, coordination of these policies can best be done with a clear understanding of how all forces acting together have created the present pattern and have set the stage for a new one.

LOOKING FORWARD

Thus the job map isn't what it used to be. The sharp urban-suburban split of employment from residential location is a thing of the past, replaced by a patchwork of job concentrations scattered unevenly across the region. Transportation and tax policy, along with natural conditions and technological developments, helped shape this realignment, and policymakers, along with other interested parties, will continue to watch for their influence. For it's fairly clear that continued suburban employment gains are more likely than a full-scale revitalization of the old downtown districts. And a reinforcement of suburban clustering is a surer bet than overall job sprawl. But whether suburban employment clusters end up as cities in the country or as something smaller—that remains to be seen.