

Classic Map Revisited: The Growth of Megalopolis

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Browning's classic 1974 map of Megalopolis, covering the growth of Megalopolis from 1950 to 1970, is updated through 2000. The color map depicts the extent and expansion of Megalopolis for three time periods, 1950–1970, 1970–1990, and 1990–2000. Discussion relates the growth of Megalopolis to social and economic forces influencing urbanization in the United States in the latter half of the twentieth century. **Key Words:** Browning, Megalopolis, urbanization.

For urban and population geographers, a wonderful and valuable map was produced by Clyde Browning and was published in 1974 in the University of North Carolina's *Studies in Geography*. Browning's article, "Population and Urbanized Area Growth in Megalopolis, 1950–1970," was both a quality representation of Megalopolis and an updating of its expansion through 1970. The term *megalopolis* had been coined by Jean Gottmann, recognizing the string of urbanized areas extending from Boston to Washington, D.C., as the "main street of America" (Gottmann 1961).

Megalopolis now extends from Fredericksburg, south of Washington, D.C., to Portsmouth and Dover-Rochester, into southern Maine. My updated map depicts the further expansion of the nation's largest conurbation, whose constituent parts housed 24.5 million people in 1950 and 42.4 million in 2000.

This brief article has two purposes, first to depict and appreciate change in the size and spatial pattern of Megalopolis, inspired by the classic Browning map, and second, to review the changing forces that have shaped this remarkable product of human settlement.

Megalopolis and its Mapping

Many academics have attempted to coin terms for their phenomenon of study, but few such terms have been successful. Gottmann's term *megalopolis* to refer to a string of closely interconnected metropolises was logical and inspired and has become part of the language (Kahn

and Wiener 1967). *Megalopolis: The Urbanized Northeastern Seaboard of the United States* (Gottmann 1961) was a massive undertaking (more than 800 pages), of detailed scholarship and amazing insight—a tracing of the evolution of the "main street" of then US1 to the interconnected promise of I-95.

Part 1 of *Megalopolis* argues the dynamic role of the core cities from Boston to Washington, D.C., in the economic and cultural development and control of the nation, the "economic hinge" of innovation, including suburbs as early as 1850. Part 2 concentrates on the structure of population and land use, especially in the suburban fringe, noting the long-standing but now faster growing penetration of urban uses into the country (i.e., sprawl), again long before other parts of the country noticed. Perhaps there was a higher expectation of the survival of close-in agriculture than has proven possible. The beginnings of urban decay and of renewal are treated, with a plea for rehabilitation instead of renewal that was finally successful in the 1980s and 1990s.

Part 3 details patterns of economic structure and change. The chapter on the white-collar revolution, outlining the restructuring to higher level activities, is probably the most important and prophetic analysis in the book, already predicting in 1960 the basic remaking of American society, with the Boston to Washington, D.C. Megalopolis leading the way. Part 4, "Neighbors in Megalopolis," recognizes the diversity and segregation of the population along ethnic, racial, religious, and class lines; the high level of inequality that characterizes creative cities; and,

finally, the difficulty of coordinating planning across utter jurisdictional complexity.

Gottmann later compared Megalopolis to other world megalopolitan systems (Gottmann 1976), and still later revisited Megalopolis in *Megalopolis Revisited: 25 Years Later* (Gottmann 1987). He was able to see the validation of his restructuring prediction and the incubator role of Megalopolis, and especially of New York. Yet he notes as well the pace of deconcentration within Megalopolis.

Browning's 1974 map was quite a large and detailed representation of Megalopolis, tracing its expansion to 1960 and to 1970. It is not practical to attempt to reproduce the original here. The monograph text presents a thorough empirical and theoretical discussion of the magnitude and nature of change. Browning provides an overview of urbanized areas and of Megalopolis, and a statistical and graphic summary of the change from 1950 to 1970, noting that not only had most cores not coalesced, but that the

metropolitan region defined by Gottmann was still less than 20 percent urban territory. This is followed by a tight review of classic urban growth theory, based on work of Mayer (1969), including reproduction of an amazing map of "The Region's Growth" (Regional Plan Association 1967). The monograph then provides case studies of Boston (by Conzen), Rhode Island (by Higbee and Higbee), New York (by Carey), Philadelphia (by Muller), and Washington (by Brodsky), in which a common theme is the discontinuity of suburban growth and the role of physical and institutional barriers.

The Updated Map: Change From 1950 Through 2000

The original 1974 map, covering 1950 through 1970, was based on urbanized area delineation, which in turn relied on corporate boundaries and enumeration districts, and rarely took into account over-bounded cities. For this reason,

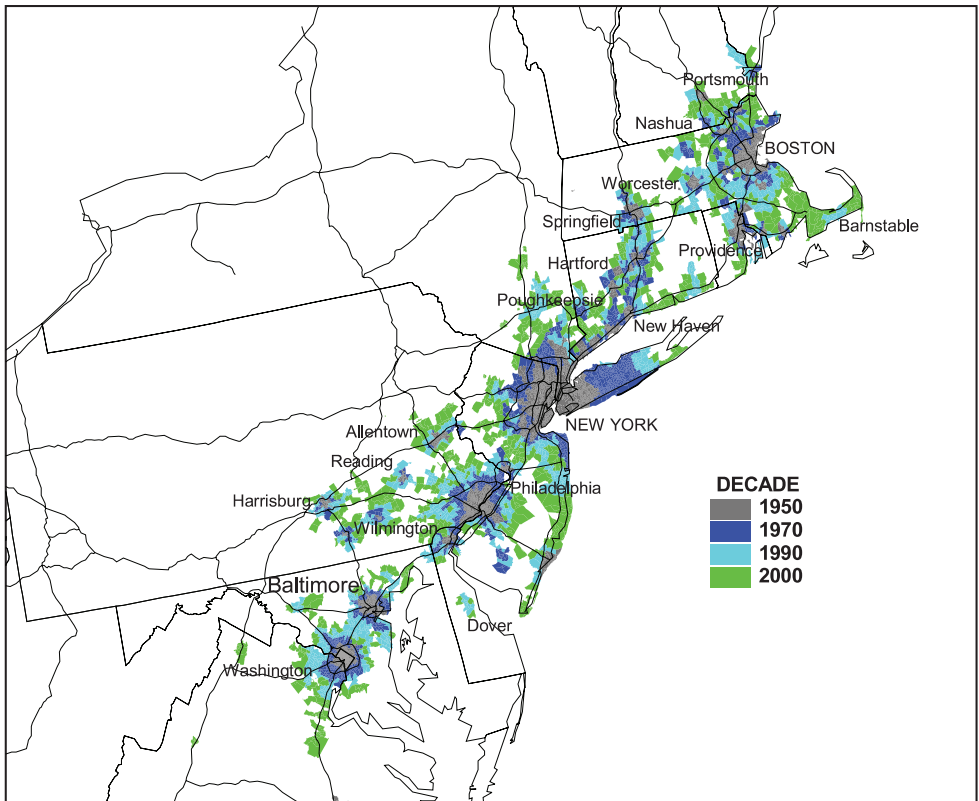


Figure 1 Population and urbanized area growth in Megalopolis, 1950–2000.

Table 1 Population in megalopolitan urbanized areas (millions)

| Year | Population | Area ^a | Density | Population | Area ^a | Density |
|------|------------|-------------------|---------|------------|-------------------|---------|
| 1950 | 24.5 | 3283 | 7315 | 1980 | 34.4 | 8390 |
| 1960 | 29.4 | 5348 | 5285 | 1990 | 36.6 | 10185 |
| 1970 | 34.0 | 7006 | 4768 | 2000 | 42.4 | 13490 |

^aArea in square miles.

the updated map, presented here as Figure 1, uses the census tract as the basic unit, rather than the far more precise delineation possible with block groups in 1990 and blocks in 2000. As a result the map does suggest a greater areal coverage than do the 2000 maps of urbanized areas, but it is also obvious that all this territory and more is functionally part of the intense commuter labor market of the metropolitan centers, and gives a realistic sense of metropolitan dominance. The 1950 urban cores represent the end of the era of central city dominance and dense urban settlement. The 1950 to 1970 change resulted from the postwar housing and suburban boom. The 1970–2000 change starkly captures the impact of metropolitan growth in the context of rising affluence, and the massive decentralizing role of the Interstate Highway System (Frey and Speare 1988). Megalopolis may not be as dynamic as the rising south or the burgeoning west, but it is still number one—the largest and most important metropolitan region.

The updated map for 2000 adds areas that became urban by 1980, 1990, and 2000, not only to places that were already urbanized areas in 1950–1970, but places that became urbanized areas over the thirty years that followed. For maximum comparability, the delimitation of areas for all the censuses 1950 to 2000 is based on the 2000 census tracts. From Table 1, we can see that the *population* of Megalopolis has not quite doubled, but the total *area* has quadrupled, and mean densities have fallen from 7,315 to 3,155 persons per square mile.

Consider the first (1950) and last (2000) stages illustrated in the map. In 1950 Megalopolis was actually a “string of pearls” composed of Washington, Baltimore, Wilmington, Philadelphia, Trenton, New York, Bridgeport-New Haven, Hartford, Springfield, Providence, Worcester and Boston, Lowell, and Lawrence—all distinct places, separated by some rural territory. These were the core urban places that had arisen in the colonial period and they had

exhibited an extraordinary linearity, based partly on physical character (the head of navigation at the fall line) and partly on the situation, sea or river ports and early industrial centers, convenient for trade with Europe (Dunn 1983).

By 1970, Wilmington-Philadelphia-Trenton had merged, as had Boston-Lowell-Lawrence, but, perhaps surprising to many, no others had merged although there had been very significant suburbanization, especially around New York and Washington, D.C. New urbanized areas included Vineland, Danbury, Fitchburg, and Nashua.

By 2000 a continuous urban settlement structure for Megalopolis had almost been realized, with a smaller Washington-Baltimore-Aberdeen to the south, a giant Wilmington to Springfield and Norwich in the center (with links to formerly independent places like Atlantic City, Allentown, Lancaster, York, Harrisburg, and Poughkeepsie), and a northern area from Providence and Barnstable through Boston to Manchester, Portsmouth, and Dover-Rochester. New outlying urbanized areas, not yet quite connected, include Fredericksburg, Dover, Wildwood, Frederick, and Kingston. The map graphically captures the massive urban diffusion from early cores, the gradual coalescence of these expanding cores, and the rise of and reaching out to satellite places (Dorgan and Kasarda 1988).

Methodology: Reporting Units and Classification Criteria

For all six censuses the basic units for the delimitation of Megalopolis were the constituent census-defined urbanized areas—that is, urban agglomerations with populations greater than 50,000, and with urban territory consistently defined as contiguous areas with densities of more than 1,000 persons per square mile. But because the available building blocks and the criteria for delimitation of urban from rural varied somewhat over the years, some standardization and consistency was achieved by

using the latest 2000 census tract geography as constant units for analysis over the decades.

The extent of megalopolis was delimited by superimposing the 2000 census tracts over the urbanized area extent for each decade. For 1990 and 2000, the nation was blocked, and a more precise delimitation of urbanized areas was possible. But because such detail did not exist before 1990, or for the original Browning map, census tracts proved the most effective unit for comparative analysis over the entire period. However, use of census tracts rather than block groups or blocks for 1990 and 2000 does result in the inclusion of some rural territory and in the exclusion of some urban territory in the final map, and a generalized rather than a spidery urban edge. This smoothing means a slightly more extensive coverage for 2000 than the block-based urbanized area mapping from the Census. On the other hand any rural territory in the included tracts is obviously a functional part of the interconnected labor markets and their metropolitan centers and gives an accurate representation of metropolitan dominance. If the presence of high levels of commuting to metropolitan centers were used to depict the extent of Megalopolis, as indeed Gottman invoked in the original book, the area would be more extensive than shown in the updated map, but not dramatically so (Morrill, Cromartie, and Hart 1999).

Forces for Change in Megalopolis, 1950–2000

The second half of the twentieth century was an era of continuing metropolitan expansion in the United States, exemplified well by the changing map of Megalopolis (Muller 1981). It is useful to summarize briefly the forces that produced these patterns of settlement change, even though this has been the subject of countless studies in several disciplines (e.g., see Johnston 1982; Castells 1989; Knox 1993; Orfield 2002).

In the case of Megalopolis, the underlying set of cores has been established for a century or more. The settlement processes that have dominated in the past fifty years include (1) sheer economic and demographic growth, (2) physical decentralization in the form of suburbanization, (3) extension of metropolitan commuting fields and the physical coalescence of formerly physi-

cally separate areas, (4) rise or restructuring of and reaching out to formerly distant satellites, and (5) restructuring and revitalization of high-level metropolitan cores. The first four are graphically represented on the map.

The fifty years may be usefully divided into three periods. The first, 1950–1970, was characterized by rapid growth and even more rapid suburbanization, and was the period corresponding to the original Browning (1974) map of Megalopolis. The second, 1970–1990, was one of some inner metropolitan decline and racial conflict, but continuing suburbanization and the rise of “edge cities.” The third, since 1990, saw metropolitan core resurgence and gentrification, inner suburban maturing, and far-suburban and exurban and satellite city growth. These divisions are perhaps not perfect with respect to societal trends (1950–1965, 1965–1985, and 1985–2000 would have been preferred), but they proved best, given the need for using decennial census data, and, at least for Megalopolis, correspond to periods of faster, then slower, and then faster growth (Table 1).

1950–1970: The Rise of the Suburbs

Suburban growth was pervasive over most of what is now Megalopolis, fueled by the high fertility and natural increase of the baby boom as the nation reacted to losses from World War II, and by very large domestic rural-to-urban migration. Almost all industrial sectors and types of cities grew as part of postwar recovery, even the older industrial sectors and cities. Metropolitan growth reflected the dominance of both increasing returns to scale and to agglomeration and the proliferation of new products and services. This growth was spatially expansive, via burgeoning new suburbs, mainly because of sheer population growth and preferences of the larger baby boom families, but, as has been endlessly repeated by urbanists, it was abetted by government housing policies and institutions (Federal Housing Administration, the GI Bill) and planning policies for separation of uses (and of races), and was encouraged by the first fifteen years of the Interstate Highway System. The period was also one of large-scale in-migration of blacks fleeing the more discriminatory South, which in turn precipitated large-scale white flight to the suburbs, notably around Washington, Baltimore, Philadelphia, and New York. Substantial suburbanization of industry and of

shopping began to follow the suburban migration. The attractive pull of suburbs, both for families and jobs, dominated throughout the baby boom period until 1965; then by the late 1960s the partly perceived and partly real problems of inner city decline and disinvestment became very strong motivators for suburbanization.

1970–1990

The population in Megalopolis grew more slowly during this period, especially from 1970 to 1985, than in the preceding or the following periods, despite continuing suburban growth, because of often-declining absolute populations and, often, declining employment in the dense, older central city cores (Berry 1976). Indeed the 1970s were rare years of more-rapid nonmetropolitan than large metropolitan growth nationally, as the giant cities were beset by racial tension, large-scale white flight to the suburbs, and the decline of traditional industries, including manufacturing and transportation (Noyelle and Stanback 1984; Harvey 1989). Fertility and natural increase fell as the baby boom was replaced by the babybust. Megalopolis fared better than more industrial areas like Buffalo or Pittsburgh or Cleveland, but growth and prospects seemed dim in comparison to metropolitan growth in the west and south. Would the torch of “main street, USA” pass to the fast-growing Sunbelt cities? (Stanback 1991)

But Megalopolis did continue to grow in area—from 7,000 to more than 10,000 square miles, up 45 percent, even as population growth was a mere 7 percent as suburbanization continued and densities fell from 4,768 to 3,590 persons per square mile. Completion of the Interstate Highway System enabled and encouraged suburban growth, including large industrial and office parks oriented to external markets, and the shift from rail to truck long-distance transport. Suburban downtowns, termed “edge cities” (Garreau 1991), arose to challenge central city dominance (e.g., Tyson’s Corner in Washington D.C.’s Virginia suburbs). Yet it proved premature to write off the old centers. Especially after 1980, the cities fought back, not by the unsuccessful urban renewal of the earlier period, but by deliberate investment in attracting higher class people and jobs through new sports arenas and arts complexes and the subsidization of high-rise office

tower development—ironically aided by the same interstate highways that encouraged suburbanization of other branches of the economy. Perhaps this overstates the role of the core cities. Alternatively, the urban cores were the places of highest metropolitan accessibility and existing infrastructure, and office and residential developers accurately perceived the long-term returns to reinvestment.

1990–2000

Even before 1990, much of Megalopolis experienced a revitalization and resurgence of growth in this latter period, with a hefty growth of 12 percent in the 1990s alone. Gottmann himself had already outlined the dimensions of this new urbanism in his book, *Megalopolis Revisited: 25 Years Later* (Gottmann 1987). A large literature on the contemporary city provides provocative and contradictory reading (e.g., Sassen 1991; Soja 2000; Wheeler, Aoyama, and Warf 2000; Batty 2001; Scott 2001).

The larger downtowns and nearby historic areas were gentrified as middle and upper class households reclaimed parts of the core (Smith 1986.) Economic restructuring, as presaged by Gottmann, massively increased service employment, as business services and finance demonstrated a preference for central high-rise venues. Core populations rose, in part by attracting young, later- or not-marrying professionals and empty-nesters (Florida’s “creative class”; Florida 2002) and in part from a resurgent large-scale immigration, especially in the 1990s, from Asia, the Caribbean, and Eastern Europe. Economic restructuring and gentrification led to a much greater degree of social and economic inequality, and rising costs of core areas led to some displacement of the poor and of racial minorities to the older inner-suburban zones, which often suffered relative decline.

But growth was vibrant in the ever more distant suburban fringe as well, greatly exceeding in absolute population and jobs the revitalization of the cores, with continuing industrial, commercial, and residential expansion. Much of the growth could be termed as low-density exurban sprawl, but where “smart growth” urban planning came into vogue, some of the growth concentrated in older, formerly independent satellite towns and cities, now incorporated into the Megalopolitan web (Peirce 1993). The revitalized cores dominated selected service and

finance sectors, and the far suburbs continued to be most attractive for wholesale and retail, transportation, manufacturing, and less-professional service activities. Despite core revitalization, mean densities continue to fall to less than half what they had been in 1950.

Finally, some of the growth in these far suburbs or satellite cities was fueled by families seeking affordable single family housing and suburban schools, people driven out by high housing costs and perceived inner city social and school problems.

Conclusion

It is reasonable to conclude, with Gottmann, that Megalopolis remains the Main street of America, despite the much faster rate and amount of growth in the metropolitan South and West. California may well be the trend setter of the nation in many ways, but Megalopolis remains the control center of our information economy and the innovator of urban settlement change, and has proven remarkably adaptable in maintaining its preeminence. The area defined as Megalopolis for the updated map housed 42,400,000 people in 2000. The exurban area surrounding Megalopolis, with high levels of commuting to megalopolitan jobs, housed at least eight million more. This amazing conurbation remains the most spectacular and powerful settlement complex and human imprint on the landscape. ■

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