Redefining the Metropolitan Region

by John S. Adams and Barbara J. VanDrasek

Flying into the Twin Cities in the early evening, fields, farms, and small towns gradually give way to urban fringe as the city lights and highway traffic intensify. But where exactly lies the boundary between urban and rural? There was a time when the city and the countryside were clearly distinguishable—when the outer ends of radial streetcar lines defined the edges of town—but that time is long past. Today we recognize the greater Twin Cities as a functional metropolitan region, an area that extends far beyond Minneapolis and St. Paul and even beyond their counties. Where does the region begin and end? It is not at all difficult to imagine residents of the same town disagreeing over their own metropolitan status. But does it matter? And if so, why?

The practice of designating metropolitan regions has followed each decennial census of population and housing since 1950. The U.S. government officially designates the nation’s major urban centers and their nearby commute sheds as “metropolitan areas” composed of whole counties or county aggregates. The criteria for delimiting metropolitan areas and the official names attached to them have changed every ten years. After the 1950 census, they were called Standard Metropolitan Areas (SMAs). Following the 1960 census they were termed Standard Metropolitan Statistical Areas (SMSAs). Today they are labeled Metropolitan Statistical Areas (MSAs). Each change of terminology has flagged changes in the criteria used to define them.

As we approach Census 2000, the question arises once again, How shall metropolitan areas be designated? And this time an additional question has been raised by the Office of Management and Budget (OMB) and the Bureau of the Census, Shall the government continue to define metropolitan areas at all? Or shall the government get out of the business of doing so, leaving such matters up to the various departments of the federal government, and to various users of federal statistics such as...
scholars, business groups, state agencies, and local metropolitan planning organizations?

Behind the scenes of what appears at first glance to be a rather arcane set of questions lies a series of significant scholarly, political, and economic debates. On the scholarly front, many geographers, sociologists, and other social scientists argue that any sharp distinction between “urban” and “rural” or between “metropolitan” and “non-metropolitan,” whatever value it may have had a century ago, is increasingly hard to defend in the 1990s, either as a theoretical or as a practical matter. Just about all Americans today live within easy access to the economic orbit of one or more full-service urban center. Because there are no sharp boundaries between the city and the countryside as there were a century ago, the argument goes, why persist in dividing the nation’s counties between those that lie within metro areas, and those located outside?

From a political standpoint, members of Congress constantly are badgered by local chambers of commerce, economic development agencies, major newspapers, and other constituents to put pressure on OMB and the Bureau of the Census to include their counties within a metropolitan area. Members of Congress, in turn, demand either that the criteria for delimiting metropolitan areas be defended or that they be modified so that Podunk County can be included, so that it may bask with pride in its metropolitan status.

Political debates also ensue concerning the naming of metropolitan areas. If a metro area has two or more central cities (Minneapolis and St. Paul, for example) there are rules about which name comes first in the official name. When metro areas grow, sprawl, and merge, some constituents argue for combining them so as to increase their ranking among the 300-plus metropolitan areas in the United States, while other interests argue for separate designations and maintenance of separate metro identities.

A local example of this occurred following the 1990 census when application of the official criteria led to the addition of Sherburne County (formerly in the St. Cloud MSA) to the Minneapolis-St. Paul MSA in 1992. The city of St. Cloud strenuously objected because part of the city lies in Sherburne County. This example highlights the ways that local sentiments conflict with efforts to apply uniform criteria in defining metro areas for the nation. Similar squabbles continue across the country.

In the next year or so, final decisions will be made by OMB on whether to continue defining official metro areas and, if so, what criteria shall be used. If OMB ceases entirely its practice of defining metro areas, it will be left to other government agencies and business users to define settlement types in whatever form suits their particular program needs. John Adams is one of the geographers who has been asked to advise the bureau on these decisions.

What About the Twin Cities?

Examination of our own metropolitan region brings all the intricacies and dilemmas of the task of definition into full relief. From 1990 to 1997 alone, the five counties that with Hennepin and Ramsey comprise the Metropolitan Council’s jurisdictional area saw their populations rise an average of 27 percent. The twelve counties adjacent to this seven-county area grew an average of 13 percent in the same period.

The metropolitan economy, however, is not generating enough revenue to continue to pay for the additional infrastructure that is needed to serve expanding and leapfrogging settlement. Moreover, the income that is being earned is unevenly distributed across the many civil jurisdictions within the metropolitan area, so that investment and development are likewise occurring unevenly and, some would say, inequitably.

Everyday decisions made within a local frame of reference by consumers, developers, employers, and local officials are having increasingly long-term and region-wide consequences. Thus we find conflicting land use patterns, congestion on major highways, abandonment of the inner-cities, and environmental damage. These consequences are putting a persistent strain on the financial health of many local governments and the quality of life of the residents they serve.

A Problem of Definition

Accurately delineating the metropolitan region is an important part of attempting to alleviate these problems and prevent further ones. At one time, the functional Twin Cities metropolitan region fit snugly within seven core counties, and the majority of city-based activity was confined within the borders of Minneapolis and St. Paul. The Metropolitan Council was created by legislative action in 1967 to be responsible for long-range planning and infrastructure development in Hennepin, Ramsey, and the adjacent five counties of Anoka, Washington, Dakota, and Carver. At the time of the council’s creation, this area contained all of the functionally integrated urbanized and suburban areas in the Twin Cities, plus vast agricultural areas that then seemed ample

---

2a. Minneapolis - St. Paul Metropolitan Statistical Area (U.S. Bureau of the Census)


Figure 2. Selected Functional Regions of the Greater Twin Cities Area
to accommodate future growth.

But the expansion of urbanization has far surpassed expectations. Today, although the cities remain economic hubs, households largely select their residence and its location for one set of reasons and select their jobs for another, and then expect the transportation system to be there to link the results of their choices. The 1990 U.S. Census recorded seventeen Minnesota and Wisconsin counties that sent at least 5 percent of their daily commuters into the seven-county metropolitan area (Figure 1). Rural land has been converted to residential use at a furious pace, and the rate of projected growth is expected to climb even higher. A study sponsored by the Builders Association of the Twin Cities in 1996 concluded that existing urban land supply is both inefficiently distributed and inadequate to handle the projected population growth over the next two decades, and that the Metropolitan Urban Services Area, despite efforts to expand its network of utilities into developing areas, cannot match the pace of growth.

Not surprisingly, the seven-county region established for Metropolitan Council coordination has not proven to be definitive by any means. Each

Economic Impacts
To the casual observer, this confusion surrounding metropolitan boundaries may appear of only academic importance, but it is hitting our communities directly in their pocketbooks. Inclusion in the metropolitan area makes a significant financial difference for both municipal governments and individual citizens, and a great deal of this difference stems from OMB’s Metropolitan Statistical Areas (MSAs) and the Bureau of Labor Statistics’ use of them as regional boundaries for estimating the cost of living. The cost of living within a metropolitan area is invariably higher than elsewhere, and its estimation determines a wide variety of public and private payments. Employers in both the public and private sectors take cost of living indices into account when determining salaries, and therefore metropolitan workers tend to earn better pay. Labor unions use a high cost of living to negotiate for higher pay and benefits for their workers. Welfare benefits and housing assistance allowances
also are tied to these indices and thus are higher inside MSAs than outside, as are Medicare payment schedules for reimbursing health care facilities for hospital and medical care. And these are only a few examples.

The Minneapolis-St. Paul Standard Metropolitan Area (as it was then called) originally was defined in 1950 as four counties (Hennepin, Ramsey, Anoka, and Dakota), and since has been expanded five times to its current total of thirteen counties (Figure 3). Unsurprisingly, many neighboring county officials, anticipating an economic benefit, have sought to expand it to their own jurisdictions. In addition to cost of living issues, local chambers of commerce and civic boosters of outlying communities often use their metropolitan status to attract businesses and residents, and the status alone can translate into investment.

But the federally-designated MSA doesn’t resolve all the metropolitan boundary issues, because one of the biggest revenue impacts for municipal governments is made by Minnesota’s Fiscal Disparities Law of 1971, which applies only to the seven core counties. Designed to reduce the differences in taxable development and thereby promote economic cooperation, recognizing that the entire Twin Cities area has economic activity is occurring beyond the reach of the Fiscal Disparities Law, and many communities are not benefiting from it. Thus, much of the law’s purpose is thwarted.

At the state and regional level, an inaccurately defined metropolitan area hampers effective infrastructure and land use planning. We learned, shortly after World War II, that when each suburb went its way independently—developing land, constructing roads, and building water and sewage systems without regard to the aggregate effects of their individual actions—problems such as traffic congestion and ground water contamination resulted. In the 1960s, we responded with a coordinated approach to regional planning that assigned responsibility for large infrastructure systems to the Minnesota Department of Transportation (MnDOT) and the Metropolitan Council. But today development simply has outgrown the seven-county jurisdiction of the Metropolitan Council. Thus, MnDOT must by federal law coordinate its transportation planning with the land use planning of a metropolitan government whose jurisdiction is significantly underbounded. As a result, transportation plans often are inefficient because many affected areas that are officially non-metropolitan are unrepresented.

Finally, on the political front, many debates in the Minnesota legislature (such as University of Minnesota regent selection) divide along current metro and non-metro lines, with the seven metro counties often lining up against the other eighty. But the debates often are misaligned when so many counties within the functional Twin Cities region are not politically allied with the seven core counties, although their fates are intertwined. And so it becomes clear that a better definition of the urban region can lay a stronger foundation for reapportionment in 2002, when Minnesota will probably lose one U.S. congressional seat and the metropolitan counties probably will gain seats in the state legislature.

Figure 3. Expansion of the Minneapolis–St. Paul Metropolitan Statistical Area

1 Original Component: 1950
2 Added December 1958
3 Added April 1973
4 Added June 1983
5 Added December 1992

Extent of linked commuting zones
1997 MSA Boundary
Transferred from St. Cloud MSA to Minneapolis-St. Paul MSA
A Matter of Density

Traditional definitions of metropolitan areas imply abrupt boundaries between city and countryside, and fail to reflect the zones of gradual transition to lower densities between these areas. Excessively numerous or complicated measures surely will prove unusable in policy and practice, while finding one absolute and uncontentious definition of the metropolitan area based on the old criteria seems impossible. Perhaps it is time to simplify our methods.

We propose using population density as a criterion for metropolitan status. It is easily calculated as residential population divided by land area and is one of the least ambiguous measures available. Places with dense residential populations are important economically as well as demographically, not only for their local money flow, reflecting the movement of goods and services, but also in terms of their land value, invested capital, accumulated savings, and available infrastructure. All of these values diminish as population density diminishes.

There is limited value, however, in measuring an individual settlement, or even a single metro area, independently by population density. High or low density takes on its significance only in relation to other places across the country with which it is compared. Our interest in a county's nationwide influence leads us to suggest a method that relies on a relative population index, calculated from both state and national scales. Nationally, every U.S. county or its equivalent (parish, division, borough, or independent city, including the District of Columbia) has a residential population density that may be ranked from highest to lowest across the country. Based on this value, each one receives a specific percentile ranking. The nation's highest density value—Manhattan, with 52,432 persons per square mile—has a U.S. percentile rank of 100; the lowest—a district in northeastern Alaska—has a rank of zero.

We can do the same for Minnesota counties. Of the state's eighty-seven density values, the highest is Ramsey County, with 3,120 persons per square mile. Since eighty-six of the state's counties (or 98.85 percent, rounded to 99) are lower in density, that gives Ramsey County a state percentile rank of 99, and, with 99 percent of the entire nation's density values being lower, a national rank of 99 also. In order for the definition to be useful for both state and national policymaking and planning, we then calculate a total density score for each Minnesota county (and each county contiguous to the Minnesota border) as the product of its national and state percentiles. For example, Ramsey County's national percentile rank (in decimal form) of .99 multiplied by its state rank of .99 gives us a total density score of .98. The national component of this analysis is especially important because a common standard of comparison often is required for national data gathering and publication, and the national component also makes Minnesota's counties more suitable for a wide variety of statistical analyses at the federal level.

Counties can be grouped by these total density scores into classes, such as those with a score of 0 to .19, those with a score of .20 to .39, and so on. Counties falling into the same density class would be judged similar for analytical and planning purposes. Density regions can subsequently be formed and mapped, as in Figure 4, indicating settlement areas of different types. This approach illustrates vividly how relative importance may vary from place to place, and also provides more evidence for the conclusion that what separates the urban from the rural is not sharp boundaries but a continuum of density levels.

Residential population density also
can be used to represent place-to-place linkage because in general it corresponds well with the intensity of activity. The majority of households has a common set of daily and weekly trips, yet our linkage patterns have become less and less likely to center on the area’s core cities. High-density counties also typically link themselves to others within reasonable travelling distance through work and non-work commuting, shopping, intra-urban migration, and so forth. Thus, instead of drawing sharp boundaries around a geographically contiguous set of counties in order to define a metro area, why not treat groups of adjacent nearby counties with similar total density scores as members of a single statistical class?

State boundaries may be crossed in the process. Such a simplified approach fully acknowledges that flows and linkages exist, but it avoids both the difficulty of trying to measure the levels of flow directly and the necessity of using these dynamic levels to define statistical areas.

A Better Outcome

Under this configuration, the idea of regional governance makes more sense because the regions are defined not simply by geography or politics but by actual similarity, and whatever institutions of regional government we choose will serve much more cohesive jurisdictions. These better-defined regions would then create policies with more uniform input from their populace and less disruption to surrounding areas. The various regions also would be in a better position to create alliances and coordinate policies among themselves.

The cost of living might be more accurately estimated if metropolitan areas were defined by population density classes, and as a result the difference in cost of living between a metro region and its neighbors would be much less severe. Communities and individuals then would not take such an abrupt financial loss in cost of living estimates if they were excluded from a metropolitan area. Also, tax sharing plans such as the Fiscal Disparities Law could more equitably redistribute tax revenue among those areas that substantially contribute to an urban economy, perhaps even sharing revenue by degrees with neighboring regions of different density classes, without arbitrarily cutting off deserving counties.

Without an end in sight for the growth of the Twin Cities area, the need for efficient land use and improved transportation systems will only continue. Changes in population density create the need for infrastructure development in the first place, and their accurate assessment early in the planning stages will prevent costly and long-term inefficiencies. Adopting a new measurement system that considers both the settlement of an area and its relationship to population patterns elsewhere will allow us to adequately accommodate Minnesota’s settlement in the coming decades, and to plan accordingly.