2003

Miami Valley (Dayton) OH

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Miami Valley Metropatterns

A Regional Agenda for Community and Stability in the Miami Valley

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Ameregis
Metropolitan Area Research Corporation
with financial support from the
Miami Valley Regional Planning Commission
October 2003

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AMEREGIS is a research and geographic information systems (GIS) firm that documents evolving development patterns in U.S. metropolitan regions. **METROPOLITAN AREA RESEARCH CORPORATION** is a research and advocacy organization that participated in this project. These two organizations are dedicated to integrating GIS mapping and traditional research methods to inform decision-making. They also assist individuals and groups in fashioning local remedies addressing the growing social and economic disparities within regions. Both were founded by Myron Orfield, a nationally recognized leader in land-use reform, social and fiscal equity advocacy and regional governance.

THE MIAMI VALLEY REGIONAL PLANNING COMMISSION is a voluntary association of local governments and non-governmental organizations in and around Dayton, Ohio. Its goals are:

- Regional Stewardship – foster collaborative regional stewardship as a means to accelerate economic, social, and environmental progress, while maintaining a sense of place in the Miami Valley Region.
- Vibrant Communities – leverage the considerable resources of the Miami Valley Region to build vibrant communities.
- Vigorous Economy – move in a strategic direction for economic growth that increases the region's competitive advantage and brings the community together.
- Healthy Environment – preserve the region's ecological heritage and quality of life through efficient land use.

Overview

ANALYSIS OF DEMOGRAPHIC AND FISCAL TRENDS in the Miami Valley shows how uncoordinated, inefficient development and competition for tax base are threatening every community in the region — from the most impoverished to the most affluent.

Geographic stratification has already had devastating consequences for the poor, leaving many of them trapped in segregated neighborhoods with limited economic and educational opportunities. Now it has begun to diminish the opportunities of working- and middle-class residents. The increasing frustration with congestion, diminishing open space and the costs associated with growth suggest that no group — not even the wealthiest suburbs — is fully satisfied with the status quo.

Here are the report's main findings:

The idea of an affluent suburban monolith is a myth

In fact, growing shares of suburban residents live in communities that are struggling with social or fiscal strains. One group of suburbs has weak tax bases and average household incomes that are below the regional average. Another group has few social needs, but must pay for needed public services with largely residential tax bases. Just a small share of the population lives in affluent suburbs with expensive housing, plentiful commercial development and strong tax bases.

All communities are hurt by the way the region is growing

The Miami Valley is increasingly segregated by income and race. The central cities remain troubled, and a group of suburbs is experiencing fiscal and social changes that signal the potential for troubles ahead. Ohio's state and local finance system has pitted the region's local governments against one another in a competition for tax base that has deprived many of its neediest schools of adequate funding. Despite slow population growth, low-density development on the urban edge threatens valuable open space and increases traffic congestion.

Without changes to the policies shaping the region, there is no reason to believe these patterns will change. The result is an ever-larger core of stressed communities and a ring of sprawl devouring even more land around it.

All places would benefit from regional reforms

There are policies based on cooperation that can help change these wasteful patterns:

- **Tax reforms** can stabilize fiscally stressed schools and help communities pay for needed public services.
- **Cooperative land-use planning** can help communities coordinate development, revitalize stressed neighborhoods and conserve open space.
- **Metropolitan partnerships** can help address issues that cross municipal boundaries and ensure all communities a voice in regional decision-making.

Change is possible

Cooperative strategies like these offer a powerful path for the region to meet its great challenges. They are already in place in various forms throughout the country, and have impassioned, thoughtful advocates in the Miami Valley. They can help encourage environmentally sensitive development, reduce inequalities among communities, encourage regional economic development efforts and expand the opportunities of the state's most vulnerable residents.

Metropatterns

THE MIAMI VALLEY REGION — defined in this report as Clark, Greene, Miami and Montgomery counties — is struggling with serious problems associated with unbalanced growth.[1] Students in the region's schools are increasingly segregated by race and income. There are significant disparities in the ability of local governments to raise revenues to meet basic public needs. Sprawl is claiming increasing amounts of valuable farmland and natural spaces.

The region's relatively slow economic growth has done little to alleviate its problems. Total employment grew 24 percent between 1981 and 2001, slower than Ohio as a whole (32 percent) and the nation (45 percent). Like many Rust Belt regions, Miami Valley has lost more than a quarter of its manufacturing jobs since the 1980s. That compares to a 23 percent drop statewide and a 12 percent drop in the U.S. as a whole.

The region's lackluster economic performance is also reflected in other measures. Among six major metropolitan areas in Ohio, in 2000 the Miami Valley region had the second lowest property tax base per household, after greater Youngstown, and the second slowest growing tax base, after Cincinnati. The percentage of the region's elementary students eligible for free lunches — a common proxy for poverty — increased from 28 percent in 1993 to 30 percent in 2000.

While the region as a whole is struggling, the fiscal and social health of individual communities varies widely. For example, Greene and Miami counties saw population and job growth rates far exceeding the regional average, while Montgomery and Clark counties lagged behind. In addition, Montgomery County lost nearly one of every three manufacturing jobs between 1980 and 2000, while Greene County — the only county in the region to experience an increase — gained manufacturing jobs at a rate of almost 10 percent.

Disparities within regions are a cause for concern because, for better or worse, the well-being of different parts of metropolitan areas are linked. Research has shown, for example, that median household incomes of central cities and their suburbs move up and down together in most regions and that the strength of this relationship appears to be increasing. In addition, metropolitan areas with the smallest gap between city and suburban incomes have greater regional job growth.[2] Finally, in large metropolitan areas, income growth in central cities results in income growth and house-value appreciation in the suburbs.[3]

These and other studies argue that communities within metropolitan areas are interdependent and that when social and economic disparities are minimized, the entire region is stronger.

Social and fiscal strains are hurting not only central cities but older suburbs as well.

Photo credit: Robert Hock Photographer

COMMUNITY CLASSIFICATION

This report relied on a statistical technique called cluster analysis to identify groups of communities sharing fiscal, social and physical characteristics (see page 4 for a description of the clustering process). The results contradict the idea that metropolitan areas can simply be divided into two distinct parts — the city and its suburbs. In fact, the clustering process revealed five types of communities in Miami Valley, each with its own strengths and challenges (see Map 1 for the communities included in each group):

Central cities: Home to 25 percent of the population in the region, the cities of Dayton and Springfield boast a number of attributes, including downtown employment centers and attractive older homes and public spaces. But these cities continue to face significant challenges, including high and growing poverty rates and relatively low average household incomes. They lost 4 percent of their households between 1994 and 2000, and their schools continue to be highly segregated by income and race. Their housing stock is aging — in fact, the cities' per-household residential tax base is just half of the regional average. Their total tax bases are just two-thirds of the regional average and growing considerably more slowly than average. These factors discourage investment in the cities and dramatically limit the opportunities of their residents.

At-risk developed suburbs: These communities include outlying towns as well as inner suburbs that are no longer at the edge of metropolitan development. As a group, these places, home to 38 percent of the region's population, have total property tax bases that are below the regional average and growing at a slower-than-average rate. Their average household income lags behind the regional average, and their population is barely growing. These communities include Huber Heights, West Carrollton and Piqua.

At-risk developing suburbs: Home to 14 percent of the region's population, these outlying communities also have below-average property tax bases that are growing slightly more slowly than average. Although their commercial-industrial tax bases grew faster than the region's average, their residential tax bases, representing the bulk of their total tax base, grew more slowly. The population of these communities is growing slowly, household incomes are below average and school poverty rates are growing. At-risk developing communities in the region include Vandalia, Union and Miami Township.

Bedroom-developing suburbs: With higher-achieving schools, lower land costs and wide-open spaces, these middle-class places appear to offer an alternative to declining communities in the core. But these suburbs, growing more than three times faster than the region as a whole, also face the downsides associated with rapid growth — among them, the need for roads, parks and new schools. In fact, these places have among the highest percentage of school-age kids among all community types in the region. Although their total tax base is above average, they have the lowest commercial-industrial tax base in the entire region. Sixteen percent of the region's residents live in bedroom-developing suburbs. These places include Beavercreek, Clayton, Tipp City and Bethel and Monroe townships.

Affluent suburbs: Home to 7 percent of the region's population, affluent suburbs have the highest property tax base and average household income in the region. The population of these suburbs grew more than nine times faster than the regional average. These communities had very low levels of economic and racial diversity in their schools. Like the bedroom-developing suburbs, they have a high percentage of school-age kids. Although affluent communities have significant fiscal resources, they also must deal with the costs associated with rapid, low-density growth, including diminished open spaces and increasingly congested roads. Affluent suburbs include Beavercreek Township, Washington Township, Butler Township and Sugarcreek Township.

Photo credit: Miami Valley Regional Planning Commission

Community Classification: How it works

This study relies on a statistical procedure called cluster analysis to assign municipalities to groups that are as internally homogeneous and as distinct from one another as possible, based on specified social, fiscal and physical characteristics.[4]

The characteristics used to cluster Miami Valley-area communities were:

- total property tax base per household
- growth in residential-agricultural and commercial-industrial tax base per household
- income per household
- population growth
- population density

Single-year variables were from 2000; change variables were from 1994 to 2000.

These variables provide a snapshot of a community in two dimensions — its ability to raise revenues from its local tax base and the costs associated with its social and physical needs. Fiscal capabilities are measured by tax base and the change in tax base.

"Need" measures were selected to capture a range of local characteristics that affect costs. Household income is a proxy for several factors that can affect public service costs. Low incomes are associated with greater needs for services and increased costs of reaching a given level of service. Density is another important predictor of cost. Very low densities can increase per-person costs for public services involving transportation — schools, police and fire protection — and for infrastructure — roads and sewers. Moderate to high densities, on the other hand, can help limit them.

Similarly, population declines and large population increases tend to increase the per-person costs of long-lived assets like sewers, streets or buildings. When population declines the costs of these assets must be spread across fewer taxpayers. When population is growing rapidly, the costs of new infrastructure tend to fall disproportionately on current residents (compared to future residents) because of the difficulty of spreading the costs over the full lifetime of the assets.

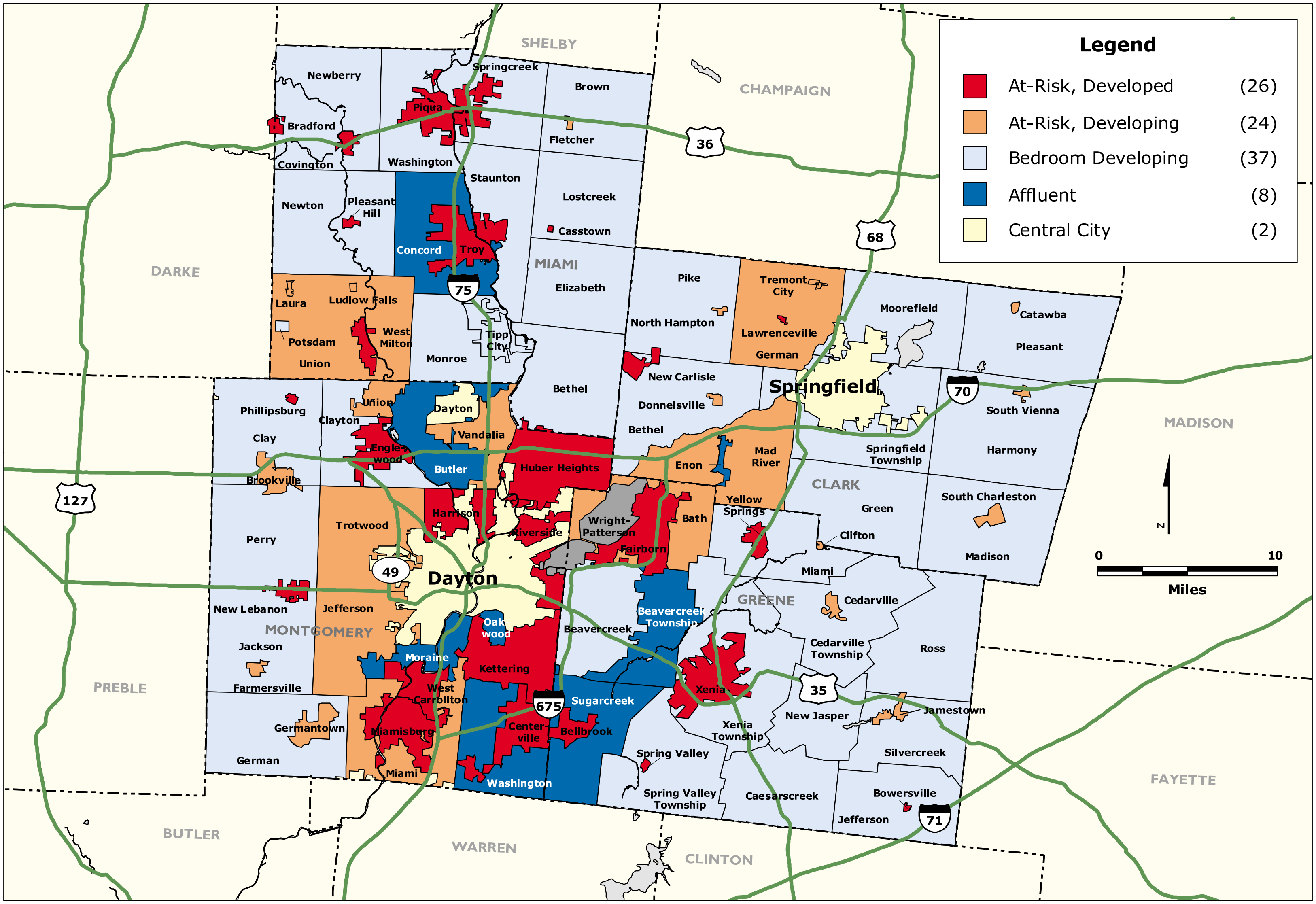
These variables also capture a cross-section of the socioeconomic characteristics that define a place's political character. Density, income and growth are among the factors people examine when deciding if a community is "their kind of place."

Due to their unique histories and internal heterogeneity, the cities of Dayton and Springfield were placed in their own category before clustering.

Table 1: Characteristics of the Community Types

Community Type	Number of Jurisdictions	Percentage of Regional Population	Total Property Tax Base per Household 2000	Residential Tax Base per Household 2000	Commercial-Industrial Tax Base per Household 2000	Change in Total Property Tax Base Per Household 1994-2000	Change in Residential Tax Base per Household 1994-2000	Change in Commercial-Industrial Tax Base per Household 1994-2000	Income Per Household 2000	Percentage Change in Population 1994-2000	Households Per Square Mile 2000
Central Cities	2	25	28,063	13,187	7,070	27	16	0	39,209	-4	1,197
At-Risk, Developed	25	38	38,926	25,140	7,907	29	13	4	52,924	2	942
At-Risk, Developing	24	14	39,535	22,883	8,507	33	18	6	50,650	2	191
Bedroom-Developing	35	16	52,270	39,668	5,787	45	25	22	67,323	7	56
Affluent	8	7	79,516	53,400	12,393	18	3	-5	86,537	17	160
Region	**94**	**100**	**41,531**	**26,362**	**7,766**	**33**	**5**	**18**	**54,083**	**2**	**212**

Map 1: Community Classification



Data Source: Ameregis.

Classifying municipalities helps demonstrate the combined effects of a local government's tax base and the costs it faces in providing services. The community classification demonstrates that "the suburbs" are not an affluent monolith. Instead, many of them are facing fiscal or social stress. In fact, over half of the region's residents — those in two at-risk categories — live in suburbs facing low or slow-growing tax bases or the social stresses of low or slow-growing income or population (see the summary table on page 4 for characteristics of the community types). Another quarter of the region's residents live in its struggling central cities.

Social Separation and Sprawl

The population of the four-county Miami Valley region grew by less than 1 percent from 1980 to 2000, but this overall measure disguised wide variations in growth rates throughout the region. A pattern of uneven growth has been largely responsible for the increasing segregation, fiscal stress and environmental damage that the Miami Valley is facing.

During the 1980s, when Ohio's population grew by half a percent, the Miami Valley's population grew twice as fast. But this trend changed in the 1990s, when Ohio's population grew 5 percent, while population in the Miami Valley dropped slightly. In this period, the core counties of Montgomery and Clark, home to Dayton and Springfield, each experienced above-average population losses during the 1990s. Meanwhile, Greene County saw population growth of 8 percent and Miami County grew over 6 percent.

This pattern of low-density development on the edge accompanied by decline in the core has resulted in increasing sprawl in the Miami Valley region for decades.[5] In fact, from 1970 to 2000, the amount of urbanized land in Miami Valley grew by 44 percent, even as the region's population fell by 1 percent (see Map 3).[6]

Density is such an important characteristic of a place because it shapes many other aspects of life. Compared to moderate- and high-density development, low-density development exacerbates the need for roads and other infrastructure, provides few opportunities for effective public transportation and threatens environmental resources. It is associated with increased per-person costs for services including schools, police and fire, and often, with higher housing prices.

The movement of population and jobs to low-density, recently rural communities of the Miami Valley region has important implications. Rapid growth on the edge often brings with it significant public costs that fall disproportionately on current residents. And in the core, population decreases take their toll, leaving fewer people — and often those with fewer personal resources — to fund public services and support local businesses.

Another major consequence of sprawling development of the Miami Valley region is strained roads and highways. The average commute in the region grew by 10 percent from 19.6 minutes in 1990 to 21 minutes in 2000. Similarly, the percentage of Miami Valley residents who drove to work alone by car increased from 82.2 percent in 1990 to 84 percent in 2000. This was higher than the 82.8 percent of Ohio residents who drove to work alone by car in 2000.[7] The trend toward more and longer trips is pressuring officials to expand and add new roads.

Racial and Income Segregation

Sprawling development contributes to a devastating pattern of social stratification that is dividing the region by income and race. Miami Valley communities are highly segregated, with poor people of color disproportionately located in the cities of Dayton and Springfield and several distressed suburbs — places with low and slow-growing tax bases.

Rapid, auto-oriented development contributes to growing congestion.

Photo credit: Miami Valley Regional Planning Commission

The social divide in the region is most clearly reflected in its schools. The share of elementary students eligible for free lunch increased from 28 percent in 1993 to 30 percent in 2000, and poor students remained very likely to attend school with one another. In 2000, 55 percent of poor students in the region would have had to change schools to achieve an identical mix of poor and non-poor students in each building in the region, up one point from 1993.

When school poverty reaches certain thresholds in a community, many middle-class families with children flee to other communities. This flight, in turn, negatively affects the housing market in the community and often creates a vicious cycle of disinvestment. [8]

Schools often experience social change faster than neighborhoods do because families with no children in the public school system (empty nesters, the young, and families with children in private schools) will often remain in a neighborhood past the time when most families with school-aged children in public schools flee. This can ease the increase in overall poverty rates. But ultimately, in most cases, when schools in a community reach certain thresholds of poverty and segregation, middle-class households of all types (i.e., households with residential choices) choose to live in other areas.

The flight of the middle class from a community strains both old and new communities. In fast-growing communities at the edge of the region, the middle class is streaming into increasingly overcrowded schools, a pattern that strains fiscal resources. For example, voters in the Sugarcreek district recently narrowly approved a bond issue for building improvements that include a new middle school.[9]

But the more powerful harms of this flight accrue to the people left behind in communities of concentrated poverty. High concentrations of poverty affect individual residents and their families as well as the community as a whole. Studies have found that poor individuals living in concentrated poverty are far more likely to become pregnant as teenagers,[10] drop out of high school,[11] and remain jobless[12] than if they lived in socio-economically mixed neighborhoods. These types of outcomes dramatically diminish the quality of life and opportunity for residents who live in areas of concentrated poverty.

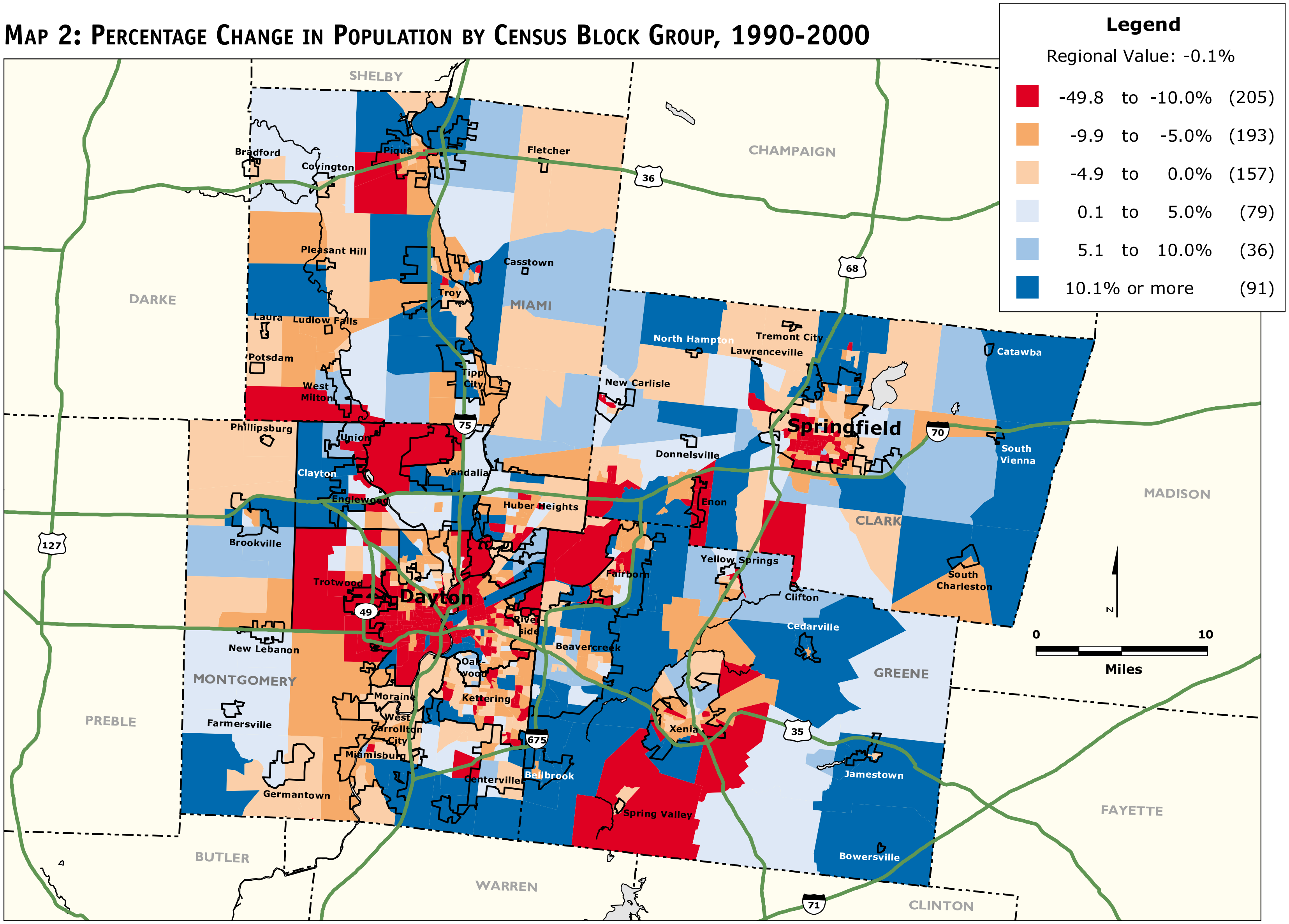
Similarly, the concentration of poverty and its attendant social isolation make education, job search and general interaction with mainstream society difficult. The problems associated with concentrated poverty — everything from high crime to poor health — place a significant burden on municipal resources and discourage investment. The impact of concentrated poverty also extends into the larger regional economy by reducing the regional pool of skilled workers and otherwise creating a less attractive environment for economic growth and development.

This pattern of concentrated poverty especially harms people of color, who are much more likely than whites to live in high-poverty areas, in part due to subtle discrimination in the housing market.[13] This residential pattern is closely mirrored in schools: racially segregated schools are very likely to be poor schools.[14] In fact, 73 percent of non-Asian minority students in the Miami Valley region schools attended high-poverty schools in 2000, while only 10 percent of white students attended them.[15]

Racial segregation remains high in the Miami Valley schools. In 2000, 69 percent of non-Asian minority students would have had to move to achieve an identical racial mix in each school — up from 68 percent in 1993. That's despite the fact that the percentage of non-Asian minority students remained roughly the same during the same period.

Photo credit: Robert Hock Photographer

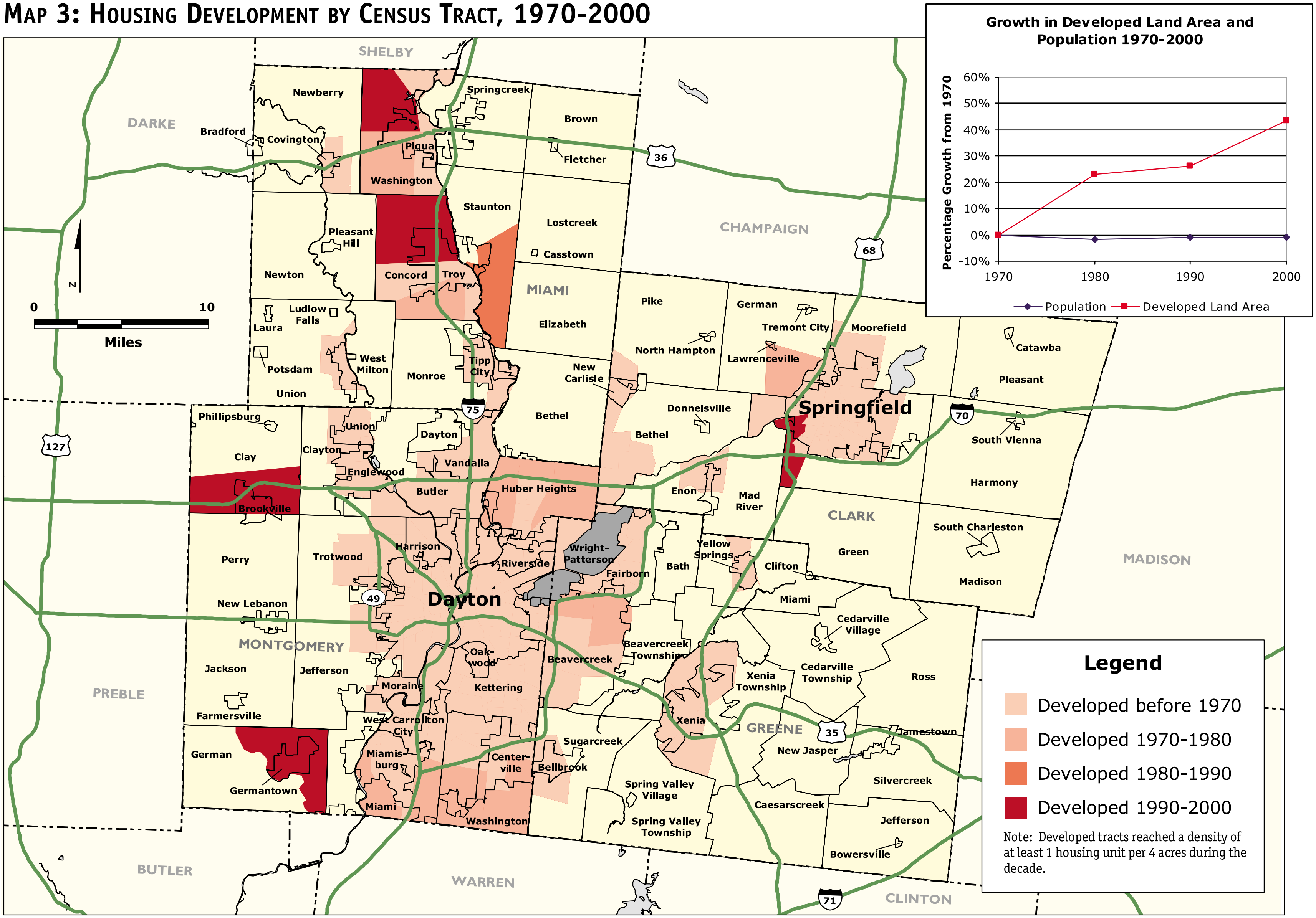
Map 2: Percentage Change in Population by Census Block Group, 1990-2000



Data Source: U.S. Census Bureau.

Changes in population shows which of the region's communities are burdened with the costs of rapid growth, and which are struggling with the costs of decline. Dayton and many adjacent suburbs saw population decrease in many areas during the 1990s, as did the city of Springfield and outlying communities scattered across the region. Likewise, fast-growing communities were spread across the region, and included a number of developing suburbs, such as Clayton and Sugarcreek Township.

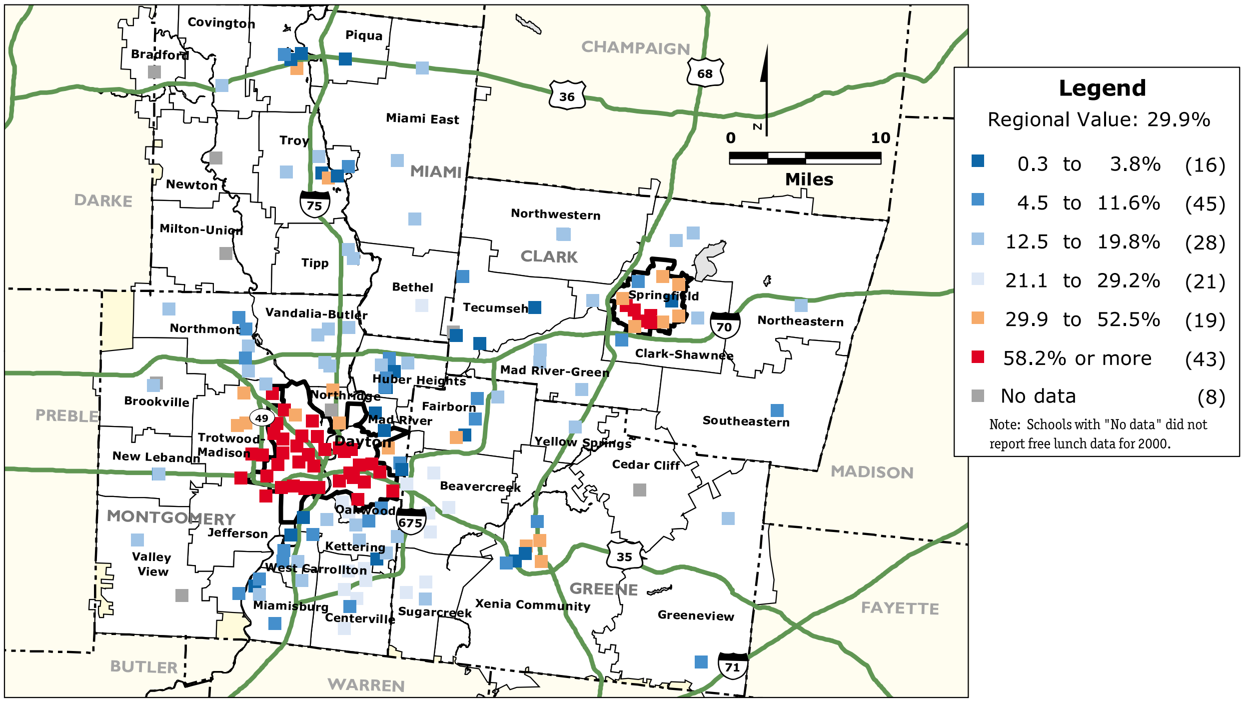
Map 3: Housing Development by Census Tract, 1970-2000



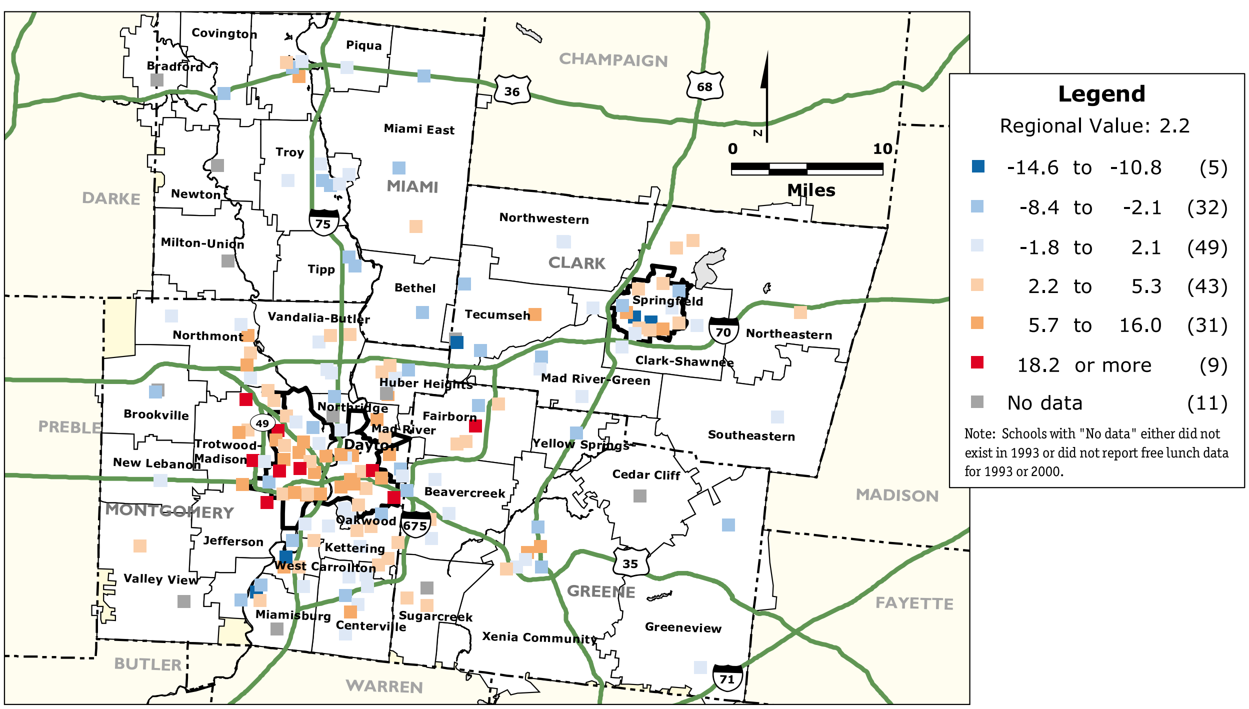
Data Source: U.S. Census Bureau.

Housing development in the Miami Valley expanded outward from 1970 to 2000 even as the region's population remained constant. Growth during the 1990s was concentrated in several outlying areas. Dayton, most of its inner suburbs, and Springfield were already developed by 1970.[16]

Map 4: Percentage of Elementary Students Eligible for Free Lunch by School, 2000



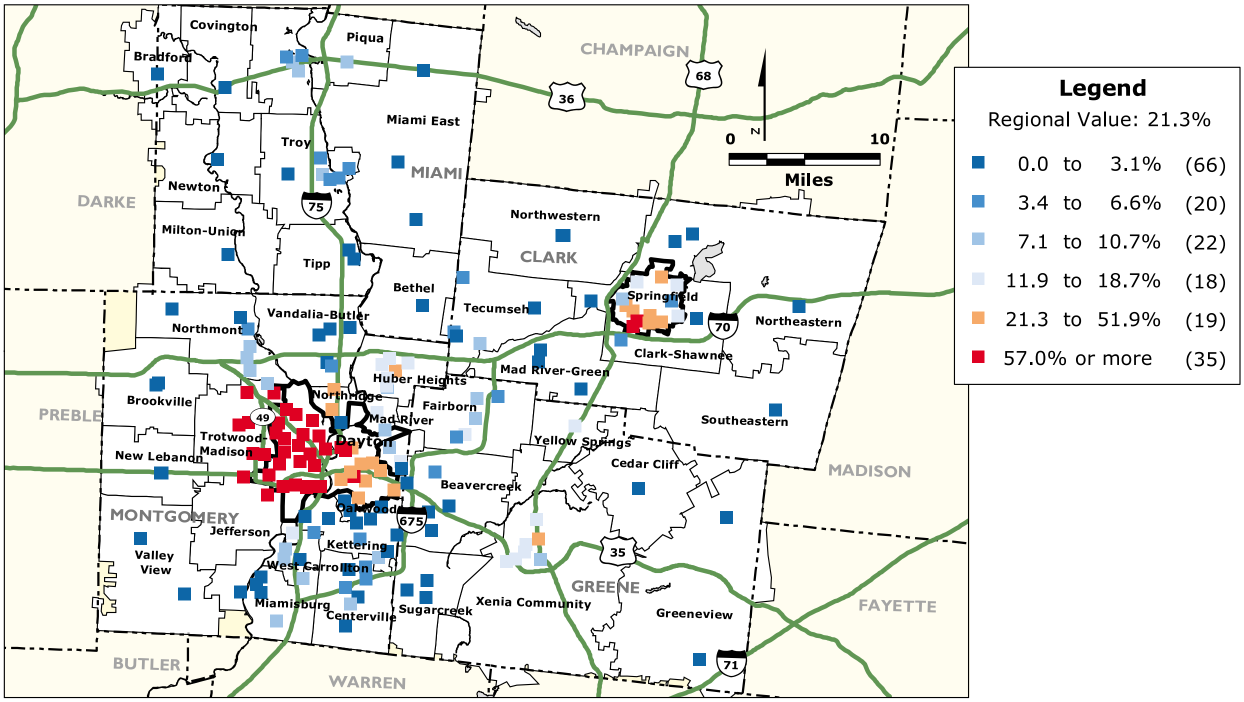
Map 5: Change in Percentage Points of Elementary Students Eligible for Free Lunch by School, 1993-2000



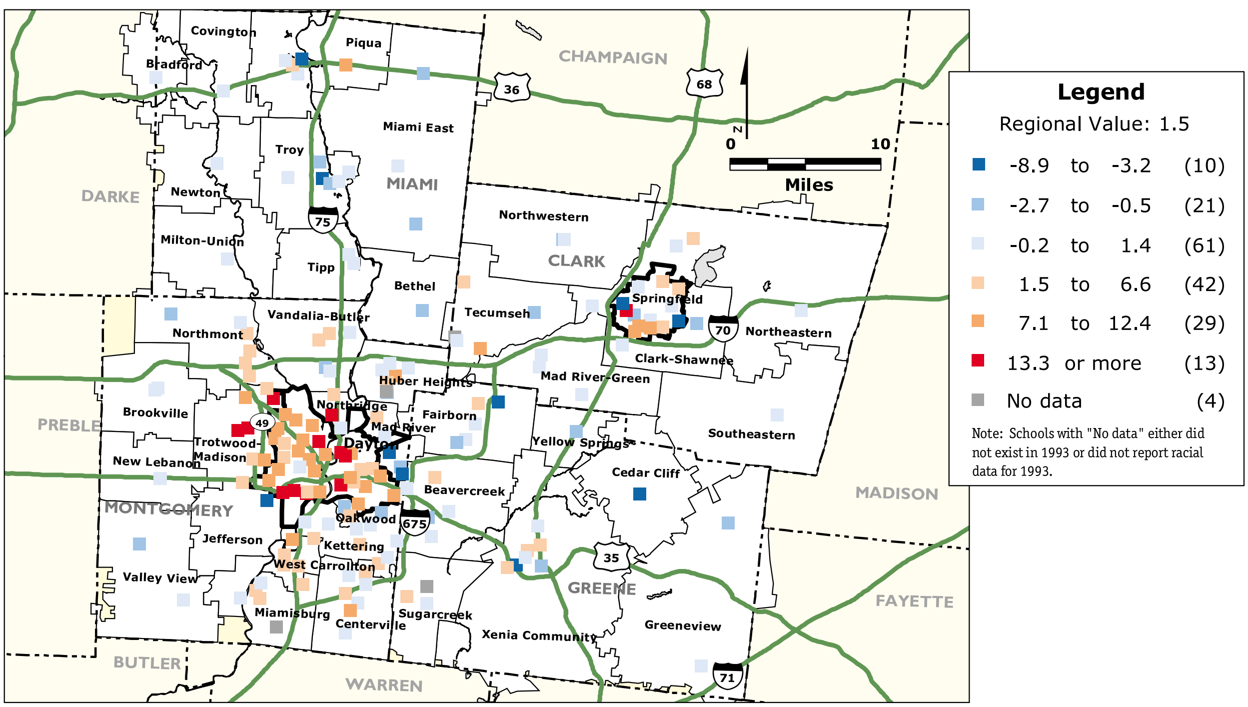
Data Source: National Center for Education Statistics.

Changes in the social make-up of elementary schools provide an early warning signal for the community as a whole. As schools grow poor, whole communities may follow. Student poverty levels are very high in the region's two central cities, Dayton and Springfield, as well as in Dayton's inner suburbs. The proliferation of student poverty from the urban core out into inner suburbs is also evident. While Dayton experienced a nine-point increase in poverty from 1993 to 2000, inner suburban districts, including Jefferson, Trotwood-Madison, Mad River and Fairborn, themselves saw significant increases, ranging from four to 22 points.

Map 6: Percent of Non-Asian Minority Elementary Students by School, 2000



Map 7: Change in Percentage Points of Non-Asian Minority Elementary Students by School, 1993-2000

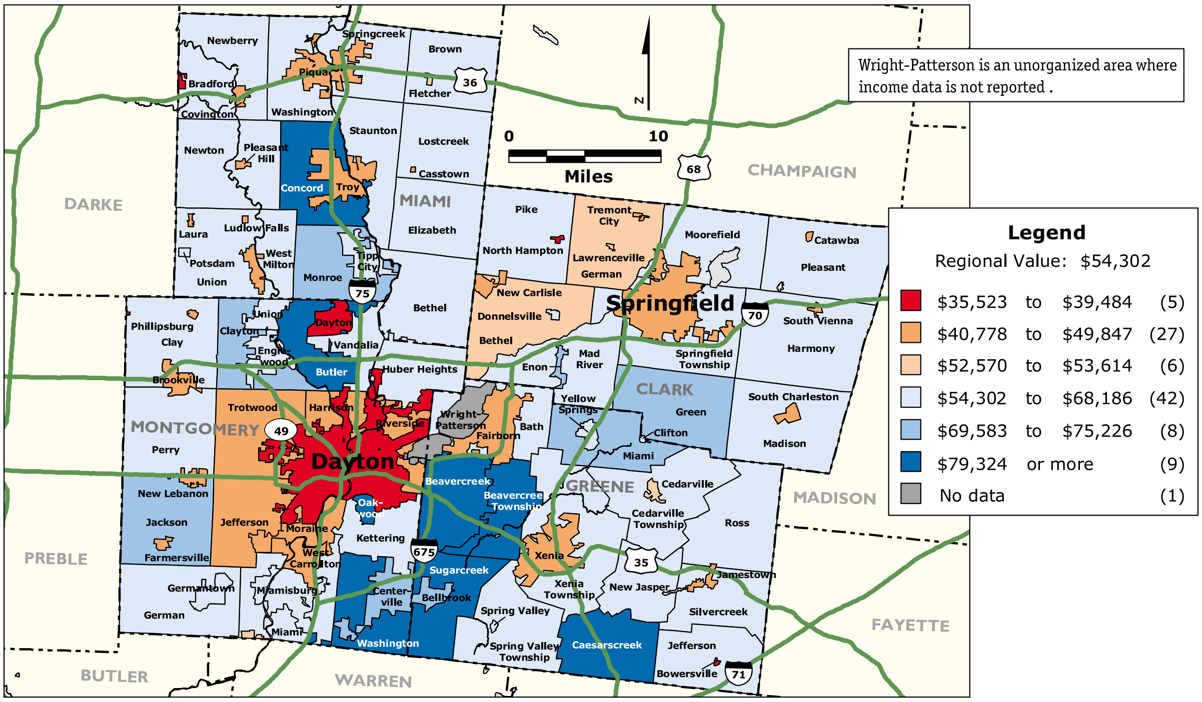


Data Source: National Center for Education Statistics.

Schools in the Miami Valley region are highly segregated by race. Minority students, highly concentrated in the cities of Dayton and Springfield and a few suburban areas, also disproportionately suffer from the effects of concentrated poverty, a pattern often reinforced through subtle forms of housing discrimination. Schools throughout the region saw increasing shares of minority students from 1993 to 2000, with many of the biggest increases occurring in the central cities and inner-suburban districts. Most of the schools with decreasing shares of minority students were located in outlying areas. These patterns do little to ameliorate existing trends of racial segregation.

Household Income

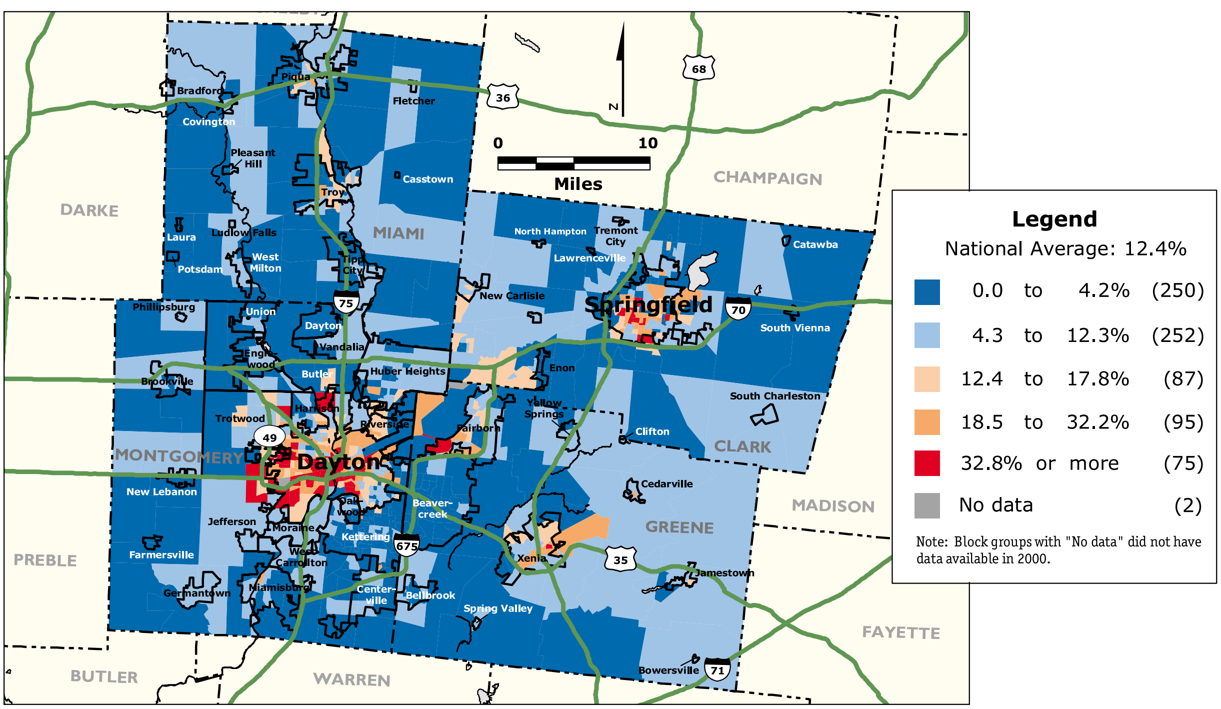
Map 8: Average Household Income by Municipality and Township, 1999



Data Source: U.S. Census Bureau.

Communities in the Miami Valley area are highly stratified by economic status. Places with high household incomes are concentrated in growing suburban areas, notably a cluster of communities southeast of Dayton. Communities with low average household incomes include Dayton, a number of its inner suburbs, Springfield and scattered outlying small towns.

Map 9: Percentage of Persons in Poverty by Block Group, 2000



Data Source: U.S. Census Bureau.

Poverty in the region is highly concentrated in just a few areas of the region. The largest pockets cover significant areas in the cities of Dayton and Springfield and in some locations expand beyond the city limits. Additional areas of concentrated poverty cover parts of Xenia, Troy, Piqua and Fairborn.

Fiscal Inequality

The Miami Valley has a relatively fragmented system of local government, and its municipal governments rely very heavily on locally generated tax revenues to pay for public services. Together, these factors place tremendous pressure on most communities to compete for development that will expand their property tax bases.

These pressures often drive local land-use planning decisions, encourage sprawl and increase economic and social stratification. Much of this competition simply shifts economic activity from one part of the region to another, contributing no net gains to the region as a whole.

Competition for tax base

Localities pay attention to the net effect that any new development will have on local revenues and expenditures — on whether the proposed development "pays its way."

To win the most profitable land uses, local governments may offer public subsidies or infrastructure improvements. But perhaps the most common approach is "fiscal zoning" — making land-use decisions not based on the suitability of the land or the long-term needs of the region, but on the tax revenue a development can generate right away. For example, many communities lay out great tracts of land for commercial development, regardless of whether it is the most appropriate use for the location.[17]

The communities that actually attract these lucrative developments can provide high-quality services at more reasonable tax rates, in turn attracting even more economic activity. But there are actually few such "winners" in this competition.

More often, the competition generates a harmful and self-reinforcing cycle of decline in places that "lose" the competition early in the game. These communities face two equally undesirable choices: they can either levy high tax rates in order to provide competitive public services or provide relatively few, or low quality, services at competitive tax rates. Either choice puts tax-base-losing municipalities at a disadvantage, and leads to further declines in their ability to compete for jobs and residents.

The result of these efforts to attract tax base is the concentration of households with the greatest need for public services in communities that are the least able to generate the revenue to provide them. The cities of Dayton and Springfield, for example, must struggle with aging infrastructure, industrial pollution, concentrated

poverty, high crime rates and other factors that strain their limited resources. With low property values, the cities have few resources to rebuild sewer systems and roads, rehabilitate housing, maintain parks or clean up polluted land.

Similar social and fiscal problems are beginning to afflict older suburban communities, including Kettering, Riverside, West Carrollton and Harrison Township. These problems make it very difficult for these communities to compete with newer communities offering cheaper land, newer homes and more open space.

Photo credit: Miami Valley Regional Planning Commission

But contrary to common wisdom, all is not well for many communities on the urban edge, either. The same patterns that hurt cities and many older communities also discourage long-term planning that would help growing communities develop in a cost-effective way. Newly developing communities, trying to expand their low tax base to pay for their growing needs and to pay off debts on new infrastructure, often feel they have to grab all the development they can before it leaves for another place. But these low-capacity places are rarely in a good position to win the competition for the most "profitable" land uses. Instead, they usually end up with moderately priced single-family homes that generate more costs — for schools, roads and sewers — than they produce in revenues.

The effects of this competition are evident in the significantly different abilities of local governments in the Miami Valley region to finance services. One way to measure the disparity is the ratio of tax base in a high-capacity place (the one with tax base at the region's 95th percentile) to the tax base in a low-capacity community (the one at the 5th percentile). The 95th-to-5th percentile ratio in the Miami Valley region, 3.7, means that if all places in the region levied the same property tax rate in 2000, the high capacity place would generate almost four times the revenue per household of the low-capacity place. That represents a narrowing of inequalities since 1994, when the 95th-to-5th ratio was 4.7.

School finance

Fiscal inequalities among communities also have serious repercussions for school districts and the children enrolled in them. In rulings in 1997, 2000 and 2002, the Ohio Supreme Court ruled that the state's system for financing education fails to provide a "thorough and efficient system of common schools throughout the state."[18] The court cited continued over-reliance on local property taxes for funding, as well as structural deficiencies in the state's aid formula and inadequate funding for facilities.

This finance system hurts many communities — both older communities serving large shares of low-income students and developing suburbs that depend primarily on residential properties for tax base.

When districts' needs are compared to their revenue capacities, the effects of disparities are magnified. To measure the combined effects of districts' fiscal capacities and service needs, this study created a classification system for Miami Valley school districts. Districts were first grouped by revenue capacity per pupil. That's the revenue a district would generate for each student if it assessed the region's average tax rate to its own tax base, plus the state and federal aid it receives. Districts with capacities per pupil at least 110 percent of the regional average were classified as high capacity. Those with capacities of 90 percent of average or less were classified as low capacity. The remaining districts were considered moderate capacity.

Districts were then categorized as either low- or high-cost. High-cost districts fit at least one of three criteria — a free lunch eligibility rate among elementary students greater than 20 percent, or enrollment growth or decline exceeding 15 percent from 1993 to 2000. Districts not meeting any of these criteria were considered low-cost.

These measures reflect a range of factors that increase costs. A high rate of free-lunch eligibility, a common proxy for poverty, generates greater needs for services and increases the cost of reaching a given level of service. Enrollment declines increase costs per pupil because fixed costs are spread over fewer students

Wasteful competition among local governments produces great inequalities in the level of services communities can provide.

Photo credit: Getty Images

Smart growth emphasizes reinvesting in existing, pedestrian-friendly neighborhoods.

and some variable costs are often difficult to reduce in a relatively short period. Quickly growing enrollments increase costs because it is often difficult to spread associated capital costs over the full lifetime of the assets.

In 2000, more than 43 percent of the students in the Miami Valley region went to school in districts exhibiting at least one high-cost stressor — high rates of student poverty, significant enrollment growth or serious decline. Among suburban students, more than 26 percent were enrolled in districts that face high costs with either low or moderate revenue capacities. An additional 34 percent of the suburban students attended school in districts with low capacities.

Affordable Housing

In addition to effects on land use and schools, the realities of local-government finance also create strong incentives for local governments to limit the amount of affordable housing within their jurisdiction, usually in favor of high-end residential and commercial developments that generate more in revenue than in costs. When aggregated over the entire region, this process often results in regionwide shortages of affordable housing and distributions of affordable housing that hurt the regional economy — creating mismatches, for instance, between where workers can afford to live and where new jobs are being created. These policies also effectively exclude low- and moderate people from many localities.

As a whole, the Miami Valley is known as a relatively affordable housing market, but regionwide measures of affordability fail to capture the nuances that exist in the area. For example, general measures do not reflect the geographic distribution of affordable housing and how this relates to other factors like the regional distribution of jobs. They also mask the wide disparities that exist in the amount of affordable housing available to people at different income levels.

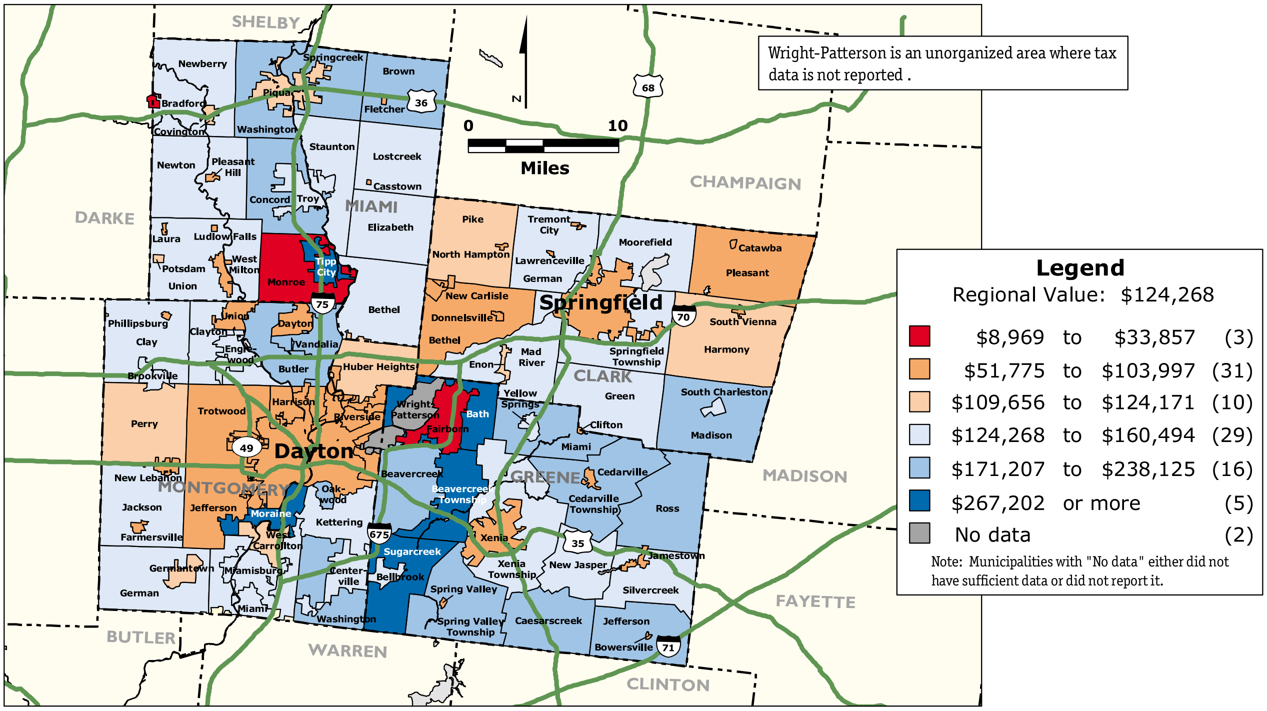
In the Miami Valley, affordable housing is very unevenly distributed (see Map 14). The region's most affordable areas are concentrated in the cities of Dayton and Springfield, with additional affordable areas in Xenia, Piqua and many inner suburbs. Many newer suburban areas, particularly those located southeast of Dayton, have very low shares of affordable units.

By comparing the share of units affordable to households of a particular income to the share of the region's households that fall in that income range, we can identify areas experiencing a shortfall of affordable housing. For instance, 12 percent of the region's households had incomes below 30 percent of the regional median in 2000. A place was therefore considered to have a housing shortfall for that income range if less than 12 percent of its housing stock was affordable to households in that group. The equivalent cutoffs for 50 percent and 80 percent of the median income were 28 percent and 39 percent, respectively.

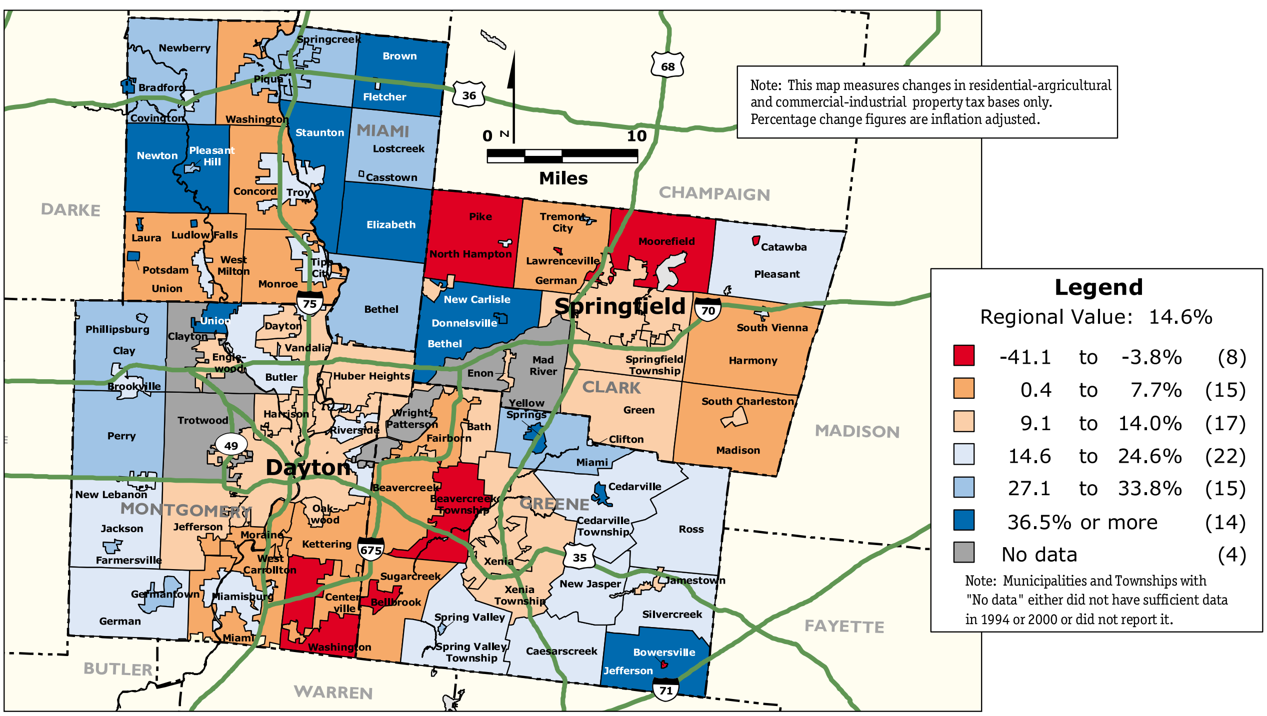
Overall, affordable housing shortfalls are greatest in outlying areas of the region, particularly in the outer edges of Montgomery County, western Greene County and scattered portions of Miami County, where there are affordable housing shortfalls in all three income categories. Areas with sufficient supplies of affordable units include older areas in and around Dayton, Springfield, Xenia, Troy and several outlying townships.

Photo credit: Miami Valley Regional Planning Commission

Map 10: Property Tax Base per Household by Municipality and Township, 2001



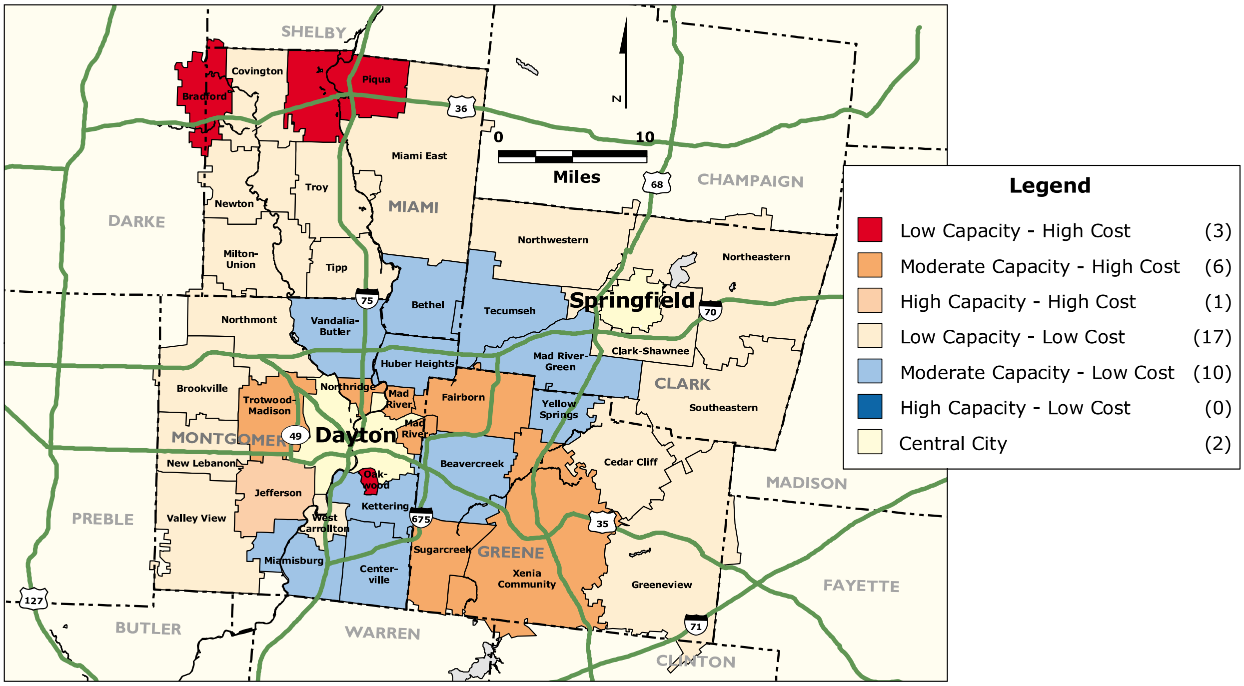
Map 11: Percentage Change in Property Tax Base per Household by Municipality and Township, 1993-2001



Data Sources: Ohio Department of Taxation; Ameregis.

When a municipality's tax base stagnates or shrinks, officials must choose either to provide fewer, or lower quality, services or raise taxes in order to maintain services. Either choice puts them at a disadvantage in the regional competition for jobs and residents. This dilemma is in play in Dayton, Springfield and growing numbers of older suburbs with low and slow-growing tax bases. Meanwhile, places with big and fast-growing tax bases, like many outlying Miami and Greene County townships, are able to maintain or improve public services without raising tax rates.

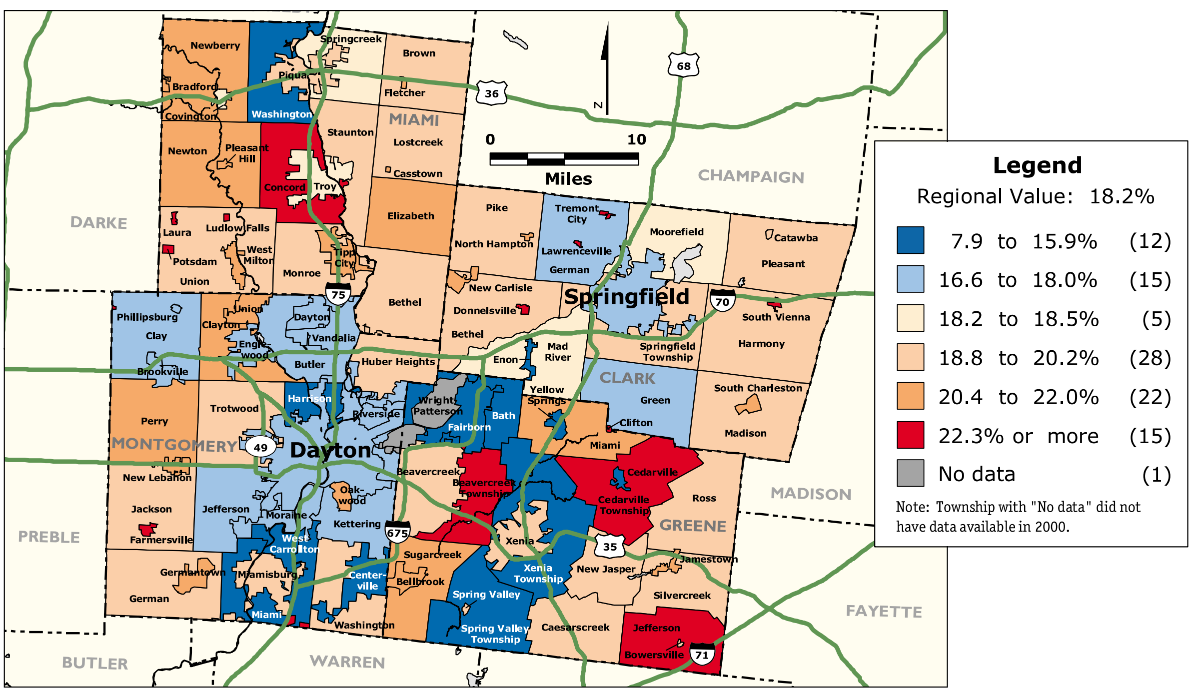
Map 12: School District Classification



Data Source: Ameregis.

School districts in the Miami Valley region — like those across the state — rely heavily on their local tax bases to pay for needed public services. In many cases there is a mismatch between their ability to pay and the needs they must address. In the Miami Valley, 43 percent of area students attended school districts exhibiting at least one high-cost stressor — either high rates of student poverty, significant enrollment growth or serious decline. No district in the region enjoys both high revenue capacity and low costs.

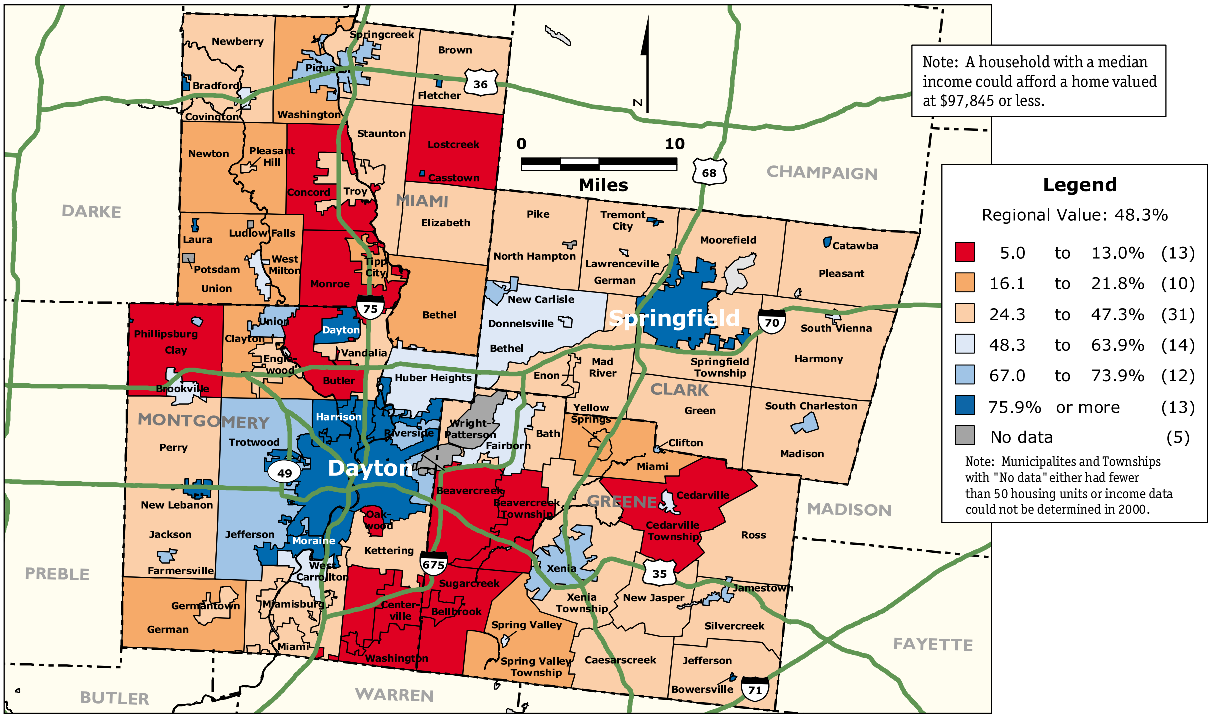
Map 13: Percentage of Population Age 5-17 by Municipality and Township, 2000



Data Source: U.S. Census Bureau.

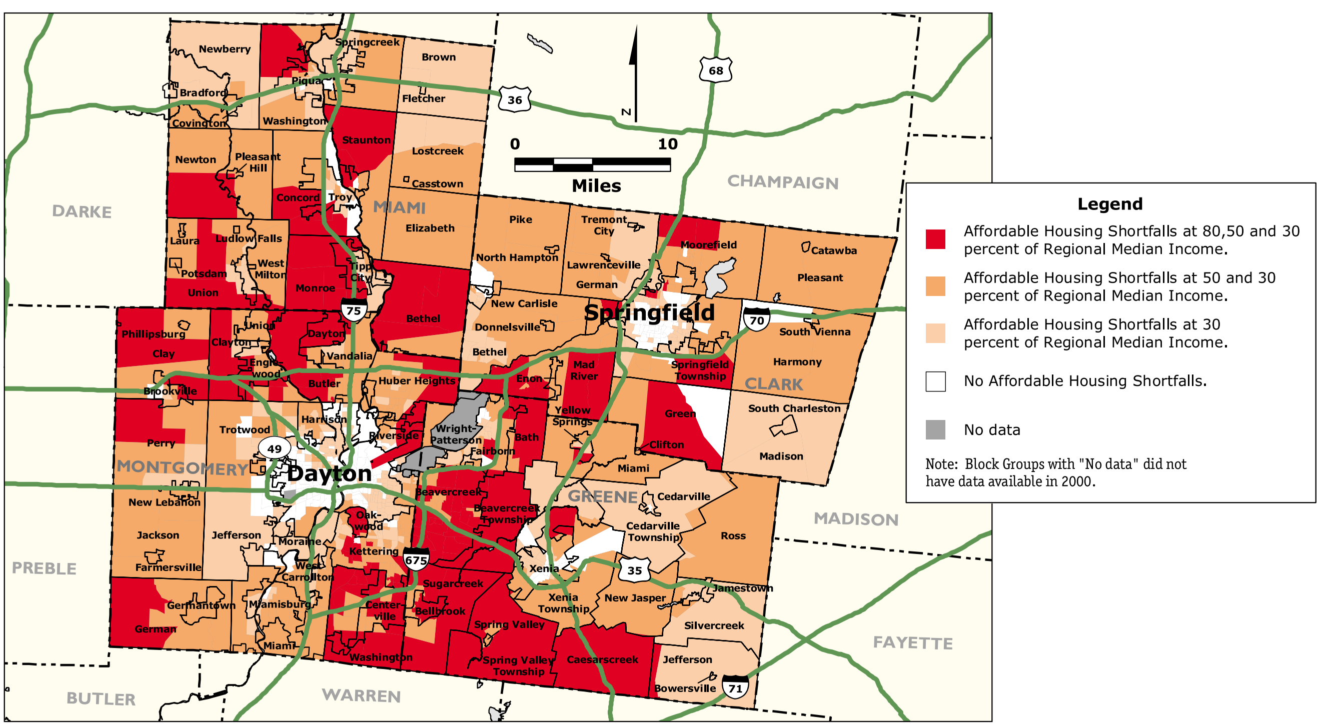
Communities with large shares of school-aged children are under considerable pressure to build schools and provide other expensive public services desired by families. Places in the Miami Valley with high shares of school-aged children include fast-growing suburban areas, such as Bellbrook, Beavercreek and Concord Township, and many outlying small towns.

Map 14: Percentage of Single-Family Housing Units Affordable to Households with the Regional Average Income by Municipality and Township, 2000



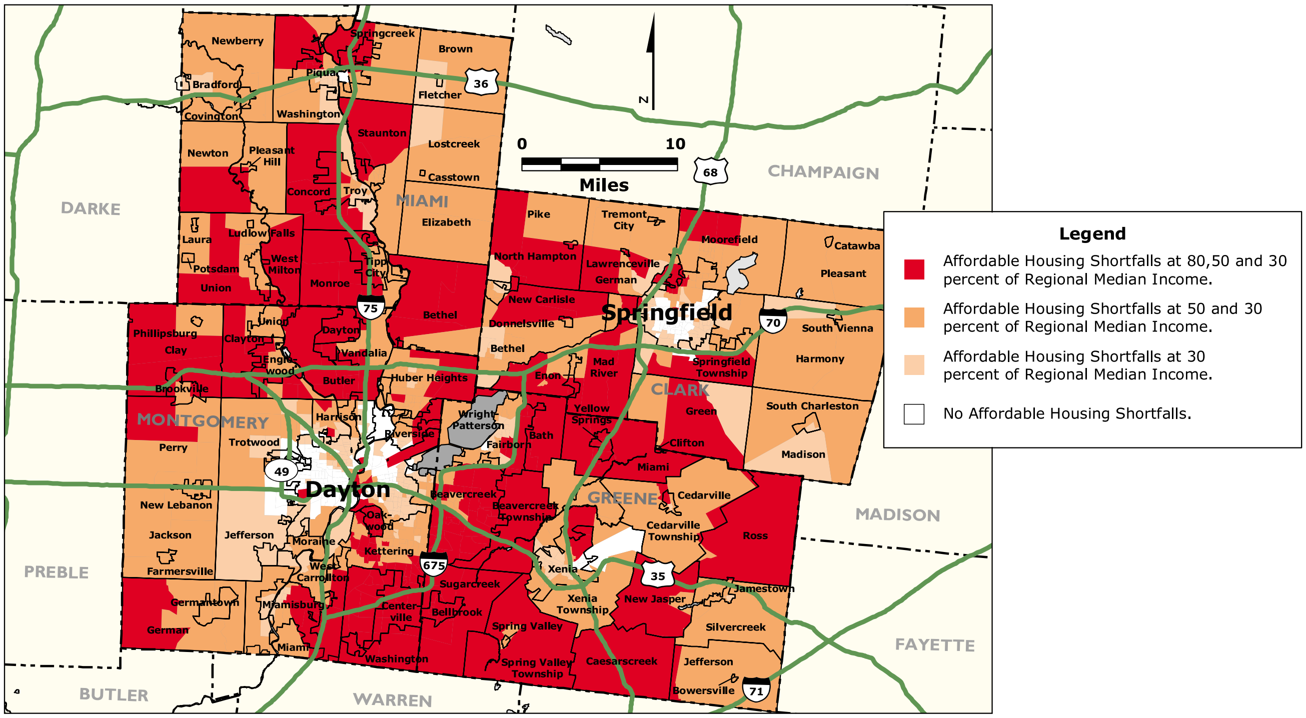
The ability to reduce racial and economic segregation in a region depends on the availability of affordable housing units in all communities. The distribution of affordable housing in the Dayton region demonstrates the difficulty of meeting that challenge. The cities of Dayton and Springfield both face high shares of affordable housing units, as do a group of suburban communities, including Harrison Township and Riverside, and older industrial towns, including Xenia and Piqua. Communities with little affordable housing cover many of the region's outskirts, including Centerville, Sugarcreek Township and Concord Township.

Map 15: Affordable Housing Shortfalls by Census Block Group, 2000



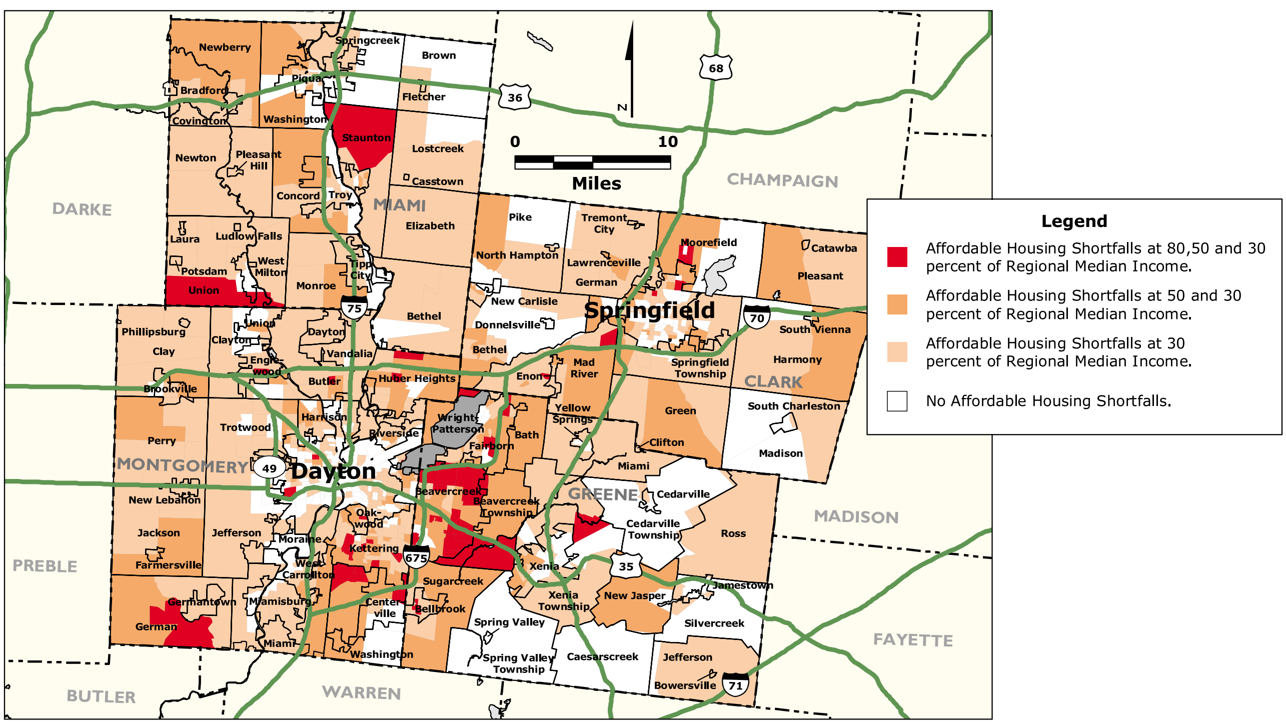
Data Source: Ameregis.

Map 16: Shortfalls in Owner-Occupied Affordable Housing by Census Block Group, 2000



Data Source: Ameregis.

Map 17: Shortfalls in Renter-Occupied Affordable Housing by Census Block Group, 2000



Data Source: Ameregis.

A place is considered to have a shortfall of housing affordable to households with a particular income if the share of its housing stock that is affordable to that group is less than the portion of the region's households that fall in that income range. Overall, affordable housing shortfalls are greatest in outlying areas of the region, where many communities show shortfalls in all three income categories. The supply of affordable housing is sufficient in large portions of Dayton and Springfield as well portions of Xenia, Troy and several outlying townships.

Looking Forward:
Strategies for Regional Reform

Regional competition for tax base and uncoordinated growth are hurting almost every city and suburb in the Miami Valley. They are leading to concentrated poverty and abandoned public facilities in central cities; growing social and fiscal strain in at-risk suburbs; and traffic snarls, over-crowded schools and degraded natural resources in communities on the urban fringe.

These problems are diminishing the quality of life throughout the region. They require region-wide solutions. Broad policy areas where reforms are most needed include:

- **Tax reforms** to equalize resources and to reduce wasteful competition for tax base among local governments.
- **Cooperative land-use planning** to help communities coordinate development, revitalize stressed neighborhoods and conserve open space.
- **Metropolitan partnerships** to address issues that cross municipal boundaries and ensure communities a voice in regional decision-making.

In addition to addressing individual problems, these strategies are mutually reinforcing. Successfully implementing one makes implementing the others much easier, both substantively and politically.

Tax Reforms

In Ohio, local governments are highly dependent on locally generated residential and commercial taxes for their revenues, because state aid plays a relatively minor role in financing the general expenditures of municipalities and school districts.[19] This produces a wide variation in the ability of local governments to generate revenue from their tax bases. It also creates substantial incentives for communities to compete against their neighbors for tax-generating developments.

In the Miami Valley region, the high-tax-base community would generate almost four times the revenue per household of the low-capacity place. And these disparities would be even greater if local income taxes were added to the comparison.

Reducing disparities among local governments is important because it provides a boost to places struggling with weak tax bases and great social and physical needs. It also reduces the incentives for places to compete against one another for tax-generating developments regardless of how they fit into regional land-use patterns.

Tax-base Sharing

Tax-base sharing is one way to significantly improve both the equity and efficiency of the regional fiscal system. On one hand, tax-base-poor communities get back more than they paid into the pool, while tax-base-rich communities get back less. On the other hand, because all communities keep a majority of the growth within their borders, the program reduces incentives for inefficient competition for tax base while still allowing communities to cover the local costs of development. In a simulation of such a program in Miami Valley, tax-base sharing would increase the tax base available to localities serving 60 percent of the population (see Map 18).[20]

The seeds of equity-based fiscal reform are already in place in the Miami Valley. Montgomery County has established what it calls the Economic Development/ Government Equity (ED/GE) program to "share some of the economic benefits … resulting from new economic development among the jurisdictions of Montgomery

Photo credit: Jeff Greenberg

County.”[21] The program provides an annual countywide funding pool for economic development projects, as well as a “government equity” fund that shares a portion of growth in municipalities’ property and income tax revenues each year. All 30 communities in the county, including the city of Dayton, participate in the voluntary program.

However, ED/GE has its limitations. Due to the relatively small size of the pool — around $800,000 in recent years — the tax-sharing elements of the program are largely symbolic. In addition, the limited geographic scope of the program, Montgomery County, curbs the effectiveness of the program in equalizing fiscal resources across the region.

Nevertheless, as a mechanism to encourage local governments to work together on economic development and growth, the ED/GE program is worth building on. Expanding it to cover the entire Miami Valley region would be a valuable step toward meaningful regional fiscal reform.

Other Policy Alternatives

In areas where development is desired, the property tax can also be improved by allowing for differential taxation of land and what is built on it. Used most extensively in Pennsylvania, the “two-tier” property tax encourages more intensive use of land by taxing land more heavily than improvements.[22] By shifting the tax burden from the improvements to the land itself, this type of tax encourages development of abandoned or underdeveloped land in already developed areas. A lower rate on buildings encourages owners to improve their properties. A higher rate on land discourages them from leaving properties vacant. In addition, when combined with other measures to protect farmland or open space, the two-tier property tax encourages more efficient use of land in developing areas.

Another important means of improving the level of disparity among communities is state-aid reform. This is especially important for school funding. The current turmoil around this very important issue provides an opportunity for significant reform.

Cooperative Land-Use Planning

In addition to the great disparities in the fiscal capacity of local governments, there are many other costs associated with the inefficient growth occurring in the Miami Valley region. Valuable agricultural land and sensitive open space is destroyed. Expensive public infrastructure is built on the urban edge, while existing facilities in the core are underutilized, and sometimes abandoned. Traffic congestion increases.

The localized nature of planning in the Miami Valley region — power is fragmented among more than 90 local governments — contributes to unbalanced growth. Such an arrangement makes it very difficult to implement coherent policies in areas with regional implications, such as housing, economic development, transportation or environmental protection.

Smart growth

Developing a cooperative framework for land-use planning that encourages places to consider the regional consequences of local decisions is an essential aspect of a regional reform agenda.

“Smart growth” is based on the premise that regions can make more efficient use of their land through cooperation rather than competition. It is an efficient and environmentally friendly pattern of development that focuses growth near existing public facilities. Smart growth initiatives are intended to reduce the destruction of open space and agricultural lands, ease traffic congestion by creating an accessible and balanced transportation system, and make more efficient use of public investments.

The number of communities adopting smart growth principles has been steadily increasing across the country. Efforts include regional and statewide land-use planning to help officials coordinate investments in roads, highways, sewers and utilities; concurrency rules that require infrastructure to be available by the time development takes place; and a variety of farmland and open-space preservation programs.

Ensuring that all communities in the region, particularly those with new jobs and good schools, strengthen their commitment to affordable housing is another essential component of smart growth planning because it helps to reduce the consequences of concentrated poverty on core communities. It allows people to live closer to work and provides them with real choices concerning where they want to live.

Photo credit: Miami Valley Regional Planning Commission

In addition to its other benefits, reducing sprawl can save money. For example, an analysis of New Jersey's State Development and Redevelopment Plan, which emphasizes smart growth, found that implementing the plan would reduce the fiscal deficits of local governments caused by growth by an estimated $160 million over 20 years, and save an estimated $1.45 billion in water and sewer infrastructure statewide.[23]

Metropolitan Partnerships

Social separation and sprawling development patterns are threatening all parts of the Miami Valley region. As in most places, however, the fragmented nature of local governance has discouraged creating coordinated strategies for dealing with these regional problems. Unfortunately, many of the region's challenges are simply too large for any one local government to address alone.

Effective, efficient region-wide collaborative efforts strike a balance by allowing local control over issues best addressed by local governments, while promoting cooperation on larger issues affecting the entire region, such as highway and sewer investments, affordable housing, transit, land-use planning, air and water quality and economic development.

There are already institutions in place that can serve as a backbone for regional reform. For example, the Miami Valley Regional Planning Commission (MVRPC) oversees various environmental and growth management activities and serves as the region's metropolitan planning organization, an appointed body of local officials with power to make decisions on planning and funding regional transportation systems.

But despite these powers, the ability of organizations like MVRPC to address broader land-use patterns — often patterns that contribute to the very congestion they are trying to ameliorate — is very limited. Armed with greater powers, existing organizations like this one could make headway on a whole host of regional issues, such as land-use planning, housing and redevelopment efforts, and the protection of agricultural lands and other open spaces. Such powers should be accompanied by reforms making these organizations directly accountable to constituents.

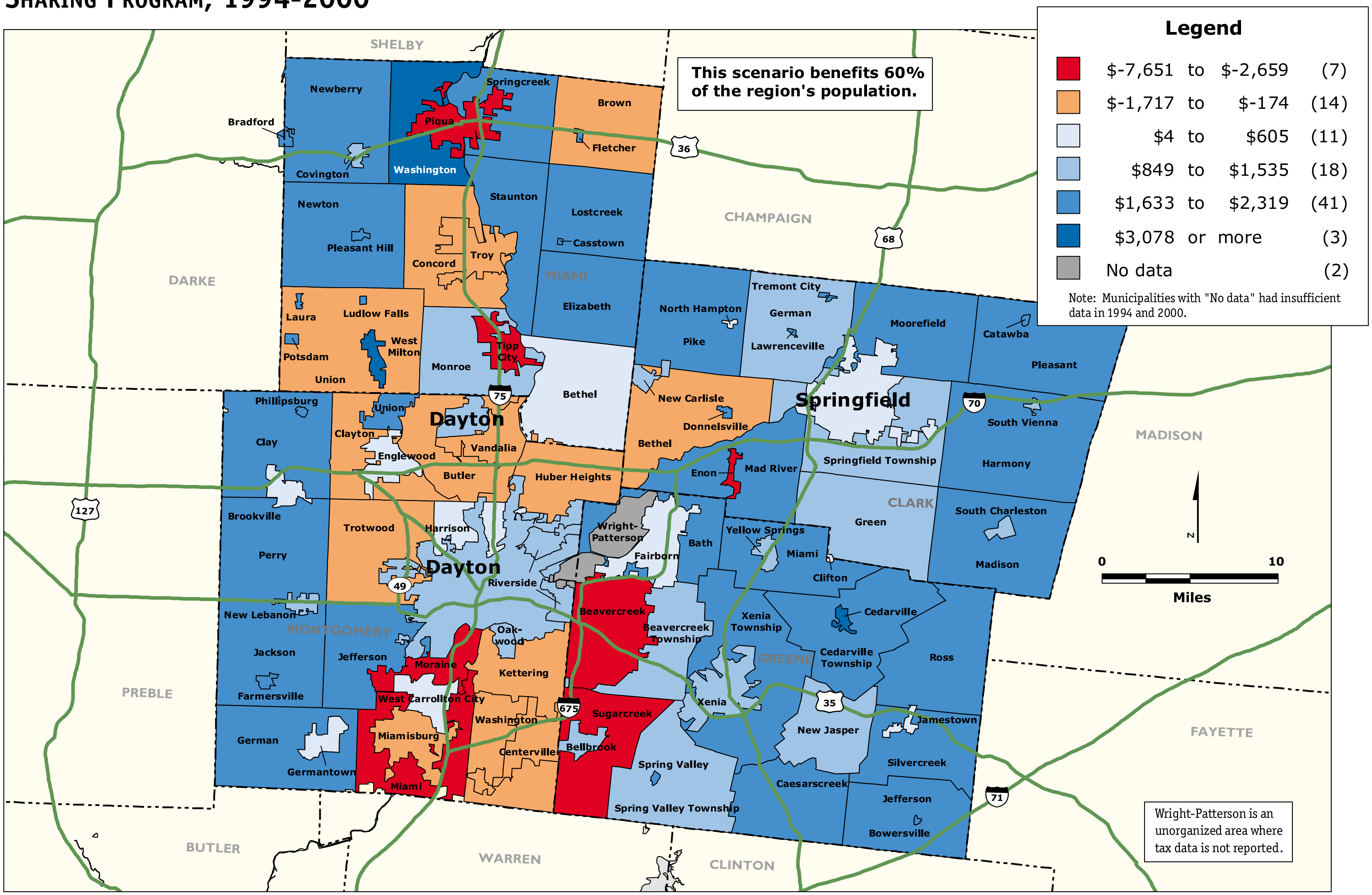
Conclusion

Regional cooperation is critical because the welfare of each individual locality is inextricably tied to the performance of its regional economy. The clear implication is that all parts of the Miami Valley stand to gain from cooperative economic development strategies that encourage balanced growth. A fragmented approach — every town for itself — can lead to vicious cycles of decline, in which places that "lose" early in the competition must either raise taxes or reduce services to make up for a shrinking tax base. Either choice reduces their competitiveness in future rounds of the competition and serves as a drag on the entire region's economic health.

In addition to benefiting the region as a whole, reforms in fiscal equity, land use and regional cooperation offer relief to all types of individual communities. For central cities, regionalism means enhanced opportunities for redevelopment and for the poor. For at-risk suburbs, it means stability, community renewal, lower taxes and better services. For outlying developing communities, it means sufficient spending on schools, infrastructure and clean water. For affluent suburban communities, regional cooperation offers the best hope for preserving open space and reducing congestion.

Photo credit: Robert Hock Photographer

Map 18: Simulated Change in Tax Base per Household Resulting from a Tax-Base Sharing Program, 1994-2000



Data Sources: Ohio Department of Taxation; Ameregis.

Tax-base sharing is a highly effective way to narrow fiscal inequalities among communities, reduce wasteful competition for tax base and share some of the benefits of economic growth. In this hypothetical tax-base-sharing program in the Miami Valley, 40 percent of the growth in commercial-industrial property tax base from 1994 to 2000 was collected and redistributed back to municipalities and townships based on their population. Communities kept 60 percent of their tax base growth. In this scenario, 60 percent of the region's residents lived in communities benefiting from tax-base sharing.

ENDNOTES

1 Clark, Greene, Miami and Montgomery counties comprise the Dayton-Springfield Metropolitan Statistical Area, as defined by the U.S. Census Bureau.

2 Larry C. Ledebur and William R. Barnes, *All In It Together: Cities, Suburbs and Local Economic Regions* (Washington, D.C.: National League of Cities, 1993); and William R. Barnes and Larry C. Ledebur, *City Distress, Metropolitan Disparities, and Economic Growth* (Washington, D.C.: National League of Cities, 1992).

3 Richard Voith, "Do Suburbs Need Cities?" *Journal of Regional Science* 38(8) 445-464, 1998.

4 Grouping was accomplished using the K-means clustering procedure in SPSS. All variables were calculated as percentages of the regional average and standardized by the number of standard deviations from the mean so that the effects of variables with very wide variations did not overwhelm the effects of variables with narrower variations. For more on cluster analysis in general, and K-means clustering in particular, see *StatSoft, Inc. Electronic Statistics Textbook* (Tulsa, OK: StatSoft, 2002) at www.statsoft.com/textbook/stathome.html.

5 Elena Irwin and Jason W. Reece, "Urbanization Trends in Ohio: Tracking Ohio's Urban Growth and Land Use Change," (Ohio: Ohio Agricultural Research and Development Center at Ohio State University, August 2002).

6 U.S. Census Bureau defines an urbanized area as one or more "central places" and the adjacent densely settled "urban fringe" that together have a minimum of 50,000 persons. The urban fringe generally consists of contiguous territory having a density of at least 1,000 persons per square mile.

7 Transportation statistics mentioned here are calculated by using data from the U.S. Census 1990 and 2000.

8 See James S. Coleman, *Equality of Educational Opportunity* (Washington, D.C.: Government Printing Office,1966); Gary Burtless, ed., *Does Money Matter? The Effect of School Resources on Student Achievement and Adult Success* (Washington, D.C.: Brookings, 1996); James Traub, "What No School Can Do," *The New York Times Magazine*, January 16, 2000.

9 Joanne Huist Smith, "Beavercreek voters give schools financial setback: Sugarcreek levy narrowly passes," Dayton Daily News, May 7, 2003.

10 Jonathan Crane, "The Effects of Neighborhoods on Dropping Out of School and Teenage Childbearing," in *The Urban Underclass*, C. Jencks and P. Peterson. eds. (Washington, D.C.: Brookings Institution, 1991), pp. 299-320; Susan E. Mayer, "How Much Does a High School's Racial and Socioeconomic Mix Affect Graduation and Teenage Fertility Rates?" in *The Urban Underclass*, pp. 321-41; Douglas A. Massey and Nancy S. Denton, *American Apartheid: Segregation and the Making of the Underclass* (Cambridge, MA: Harvard University Press, 1993), pp. 169-70; Dennis P. Hogan and Evelyn Kitagawa, "The Impact of Social Status, Family Structure, and Neighborhood on the Fertility of Black Adolescents," *American Journal of Sociology* 90, no. 4 (1985): 825-55; Frank F. Furstenburg, Jr., S. Philip Morgan, Kristen A. Moore, and James Peterson, "Race Differences in the Timing of Adolescent Intercourse," *American Sociological Review* 52 (1987): 511-18; Elijah Anderson, "Neighborhood Effects on Teenage Pregnancy," in *The Urban Underclass*, pp. 375- 98; Sara McLanahan and Irwin Garfinkel, "Single Mothers, the Underclass, and Social Policy," *The Annals of the American Academy of Political and Social Science* 501 (1989): 92.

11 Crane, "The Effects of Neighborhoods," pp. 274-320; Mayer, "Graduation and Teenage Fertility Rates," pp. 321- 41; Massey and Denton, *American Apartheid*, pp. 169-70.

12 Massey and Denton, *American Apartheid*, pp. 180-82.

13 For a general discussion of housing discrimination, see John Yinger, "Testing for Discrimination in Housing and Related Markets," *A National Report Card on Discrimination in America*, ed. Michael Fix and Margery Austin Turner (Washington, D.C.: The Urban Institute, 1998).

14 High-poverty schools are those with free and reduced-price lunch eligibility rates of 40 percent or greater.

15 Asians were not included in the analysis of racial segregation because research has shown that they tend to experience less educational and housing segregation than blacks, Latinos and Native Americans. See Douglas Massey, "The Residential Segregation of Blacks, Hispanics, and Asians: 1970 to 1990," in Gerald D. Jaynes, Ed., *Immigration and Race: New Challenges for American Democracy* (New Haven: Yale University Press, 2000); and Gary Orfield and John T. Yun, "Resegregation in American Schools" (Cambridge, Mass.: The Civil Rights Project, Harvard University, 1999).

16 One housing unit per four acres is a degree of density that closely corresponds to the density cutoff used by the U.S. Census Bureau in determining urbanized area, 500 people per square mile.

17 See William A. Fischel, "Property Taxation and the Tiebout Model: Evidence for the Benefit View from Zoning and Voting," *Journal of Economic Literature* 30 (1992), pp. 171-77, for a discussion of fiscal zoning and why it occurs.

18 DeRolph v. State (2002) is the most recent of these rulings.

19 In 1996-97, the state aid share of municipal general expenditures in Ohio was 13 percent while the state aid share of school district general expenditures was 41 percent. The corresponding percentages for the country as a whole were 18 percent and 49 percent, respectively. See Table 5.1 in Myron Orfield, *American Metropolitics: The New Suburban Reality* (Washington, D.C.: Brookings Institution Press, 2002), p. 87.

20 The tax-base sharing scenario reduces the ratio of the 95th percentile tax base per household to the 5th percentile tax base by 3 percent from 3.7 to 3.6. This tax-base sharing scenario uses only 1.5 percent of the region's total tax base as the tax pool to be distributed over the course of six years. A larger redistribution pool would have reduced the 95th-to-5th ratio by a larger percentage.

21 Montgomery County Economic Development/Government Equity (Ed/Ge) Handbook: 2001-2010 (Dayton: Montgomery County, Ohio, 2001).

22 See "Pennsylvania's Success with Local Property Tax Reform: The Split Rate Tax," available at http://www.earthrights.net/docs/success.html and Wallace E. Oates and Robert M Schwab, "The Pittsburgh Experience with Land Value Taxation," in Helen F. Ladd, *Local Government Tax and Land Use Policies in the United States: Understanding the Links*, (Northhampton: Edward Elgar Publishing, 1998).

23 "The Costs and Benefits of Alternative Growth Patterns: The Impact Assessment of the New Jersey State Plan," (New Brunswick, NJ: Center for Urban Policy Research, Edward J. Bloustein School of Planning and Public Policy, September 2000).

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