

## COMMUNITY CLASSIFICATION

Tax capacity is not the only important dimension to consider when evaluating local conditions relating to conservation of natural resources. Local fiscal stress or health also depends on factors affecting the demand side of local budgets (see text box on page 38). These factors must also be considered for a more complete picture of conservation potential.

Metropolitan areas are often viewed as if they are composed of troubled central cities and prosperous suburbs. However, in its studies of numerous metropolitan areas, Ameregis has documented the very wide diversity of communities within metropolitan areas, especially suburban areas. In most metropolitan areas, many fully developed, relatively densely settled suburban areas show signs of stress much like those seen in central cities. In addition, another group of suburbs usually exhibits modest, roughly average, tax bases and high rates of population or job growth—a combination that can also produce stress because of the costs associated with growth.

No single dimension, such as tax base, income or poverty is adequate to describe the diversity of communities in the metropolitan landscape. For this work, cluster analysis was used to group municipalities based on similarities and differences across several dimensions, including both sides of local budgets—the capacity to raise revenues and the need for or costs of providing services.

The analysis was performed separately for the 11-county metropolitan area and 6-county non-metropolitan portions of Central Region. The underlying economy, growth dynamics, tax bases and service costs are dramatically different in the two parts of the region, making a single analysis of the full 17-county area impractical.



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## The Twin Cities Metropolitan Area

Map 18 shows the results of the analysis for the metropolitan portion of the region. The analysis divided the 269 municipalities in the 11-county region into six groups—central cities, stressed municipalities, developing job centers, bedroom developing communities, developed job centers, and affluent residential areas.

Table 3 (page 37) shows how the groups vary across the characteristics used in the clustering—tax capacity per household, jobs per household, poverty rate, household growth from 1993 to 2003, household density, and median housing age.

Two groups—central cities (2) and stressed municipalities (53)—are home to 47 percent of metropolitan households. These two community types, found largely in the core of the region, show a combination of capacities and costs that imply significant fiscal stress. In these places, lower than average tax capacities are combined with higher than average cost factors. Notable cost factors include: significant job concentrations that increase demand for services by non-residents; higher poverty rates that increase needs; much greater than average household densities that can create congestion costs; and greater than average housing ages which generally indicate older infrastructure that is more expensive to maintain or upgrade.

Another group of 58 developing job centers, representing 25 percent of households, shows roughly average tax capacity and some higher than average cost characteristics. In particular, these places are likely to be stressed by growth—they show the highest growth rates for both households and jobs among the six clusters. Developing job centers lie in two arcs of second ring suburbs in the southern and northern parts of the metro and along the I-94 corridor to the northwest.

The bedroom developing group consists of 112 municipalities at the perimeter of the metropolitan area and represents 8 percent of households. It is similar to the developing job centers except that these places do not show job concentrations like those in the job centers. They also show roughly average tax resources coupled with rapid population growth.

DNR'S CENTRAL REGION SHOWS A WIDE VARIETY OF COMMUNITY TYPES ESPECIALLY IN THE SUBURBS. SOCIAL AND FISCAL STRAINS ARE NOT LIMITED TO OLDER URBAN AREAS.

The final two community types—32 developed job centers and 12 affluent residential areas—are largely second ring suburbs across the south and west of the region and in the area around Lake Minnetonka. They show few signs of stress. Representing just 20 percent of regional households, these places enjoy relatively rich tax bases with few cost factors.

In sum, like most metropolitan areas, the Twin Cities region shows a great deal of diversity in community types, especially in the suburbs. Just under half of the region's households live in places showing clear signs of stress and another third live in communities that must plan carefully to manage the costs of growth with only average local resources.



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## The 6-County Nonmetropolitan Region

Map 19 and Table 4 show the results of the analysis for the 6-county non-metropolitan portion of the region. The analysis separated the 189 municipalities in this part of the region into five groups—stressed municipalities, developed job centers, agricultural centers, low density residential areas, and resorts.

The table shows how the groups vary across the characteristics used in the clustering. The clustering variables are the same as those used in the 11-county metropolitan area with the addition of two variables—the percentage of residents employed in agriculture and the percentage of housing that is seasonal.

Both the stressed municipalities and the developed job centers show significant signs of fiscal stress. The 66 municipalities in these groups represent 63 percent of households in the 6-county non-metropolitan region. Both groups show lower than average tax capacities. Tax capacities are especially low in the stressed group. These places are in the farthest reaches of the region, for the most part, in northwestern Todd County.



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The developed job centers represent the traditional regional centers like Onamia, Long Prairie and Sauk Center and one larger city—St. Cloud. Tax capacities in this group are just below average and stagnant, showing essentially no growth between 1993 and 2004. The cost factors facing them relate primarily to their function as central places in their local economies—the costs of providing services to non-resident workers and others who use local public and commercial facilities—but they are also growing faster than average.

The second largest group—74 low-density residential areas representing 27 percent of total regional households—is spread across the southern and eastern parts of the six county area. They are relatively stable places with tax capacities a bit higher than average and the lowest average poverty rate of the six groups.

A relatively small group of agricultural centers—21 municipalities with 3 percent of households—shows slightly higher tax capacity coupled with very slow growth and very low densities.

Finally, the resorts—28 places with 8 percent of the region's households—show the highest tax capacities per household and the greatest household growth rates. These places are clustered around Mille Lacs, in northeastern and southwestern Todd County and in southern Stearns County.

Just as in the Twin Cities metropolitan area, the 6-county non-metropolitan portion of the region shows very significant diversity. Roughly two-thirds of the area's households reside in communities with significant signs of stress—places that could shoulder the burden of conserving sensitive natural areas only with great difficulty.

**Table 3: Characteristics of the Community Types — Twin Cities Metropolitan Area | Variables Included in the Cluster Analysis**

Community Type	Number	Percentage of Regional Households	Tax Capacity per Household 2003	Jobs per Household 2003	Poverty Rate 2000	Percentage Growth in Households 1993-2003	Households per Sq. Mile 2003	Median Housing Age 2000
Central Cities	2	24	1,821	1.7	16	1	2,972	58
Stressed	53	23	1,943	1.2	6	7	1,371	32
Developing Job Centers	58	25	2,503	1.0	3	56	364	14
Bedroom Developing	112	8	2,639	0.3	3	24	36	29
Developed Job Centers	32	19	3,375	2.3	3	15	793	30
Affluent Residential	12	1	7,047	0.9	2	19	173	3
<b>Total</b>	<b>269</b>	<b>100</b>	<b>2,429</b>	<b>1.4</b>	<b>7</b>	<b>18</b>	<b>287</b>	<b>27</b>

**Table 4: Characteristics of the Community Types — 6-County Non-metropolitan Area | Variables Included in the Cluster Analysis**

Community Type	Number	Percentage of Regional Households	Tax Capacity per Household 2003	Jobs per Household 2003	Poverty Rate 2000	Percentage Growth in Households 1993-2003	Households per Sq. Mile 2003	Median Housing Age 2000	Percentage of Housing Seasonal 2000	Percentage of Work Force in Agriculture
Stressed	32	6	785	0.5	12	5	17	46	4	9
Developed Job Centers	34	57	1,442	1.9	11	31	638	31	1	1
Low Density Residential	74	27	1,710	0.3	6	19	13	28	5	7
Agricultural Centers	21	3	1,949	0.2	10	9	5	41	3	33
Resort	28	8	2,115	0.2	11	43	10	28	40	8
<b>Total</b>	<b>189</b>	<b>100</b>	<b>1,546</b>	<b>1.2</b>	<b>10</b>	<b>26</b>	<b>26</b>	<b>33</b>	<b>7</b>	<b>5</b>

Sources: U.S. Bureau of the Census, Minnesota State Auditor.

## CLUSTER ANALYSIS: HOW IT WORKS

**Because there are more than 450 jurisdictions included in the study area,** it is impossible to individually measure each one against the others. Instead this assessment 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.<sup>11</sup> Because the forces driving the economic and social growth are so different for the two parts of the overall study area, the analysis was performed separately for the municipalities in the 11 Minnesota counties of the Twin Cities metropolitan area and the remaining six non-metropolitan counties.

The characteristics used to group the municipalities were property tax base per household (2003), poverty rate (2000), household growth (1993 to 2003), and household density (2003), median age of the housing stock (2000) and jobs per household (2003).<sup>12</sup> The percentage of the housing stock that is seasonal (2000) and the percentage of the work force in agriculture (2000) were added to the analysis of the non-metropolitan portion of the study area because development related to tourism/resorts and agriculture are so important in that part of the region.

These demographic and fiscal 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 jobs per household in the Twin Cities and by those variables plus the seasonal share of housing in the rest of the study area.

Measures of need capture a range of local characteristics that affect the cost of providing public services. High poverty is a well-documented contributor to

public service costs. It both generates greater needs for services and increases the cost of reaching a given level of service. Both population declines and large 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 for 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. Density is another important predictor of cost. Very low densities can increase per-person costs for public services involving transportation (like schools, police and fire protection) and for infrastructure (roads and sewers). Moderate to high densities, on the other hand, can help limit per-person costs. Housing age is used as a proxy for the age of the community's infrastructure—older infrastructure is more expensive to maintain.

These variables also capture a cross-section of the socioeconomic characteristics that define a community's character. Demographics, population growth, and density are among the factors people examine when deciding if a community is “their kind of place.” Because of their unique history and characteristics, the Twin Cities central cities—Minneapolis and St. Paul,—were place in their own group before clustering.