Growth and Change:
Population Change in Ohio and its Rural-Urban Interface

The Exurban Change Project and
Swank Program in Rural-Urban Policy
Summary Report
May 2007

Mark D. Partridge, *Swank Professor of Rural-Urban Policy*
Department of Agricultural, Environmental and Development Economics

Jeff S. Sharp, Associate Professor
Department of Human & Community Resource Development

Jill K. Clark, Program Manager
Department of Agricultural, Environmental and Development Economics

THE OHIO STATE UNIVERSITY
COLLEGE OF
FOOD, AGRICULTURAL, AND
ENVIRONMENTAL SCIENCES

EXTENSION
OARDC

Growth and Change:

Population Change in Ohio and at its Rural-Urban Interface

The Ohio State University

May 2007

Executive Summary

In 2003, the OSU Exurban Change and Swank programs produced a policy brief documenting Ohio population movements and land use patterns for the 1990s. With the new Strickland administration's TURN-AROUND Ohio plan, we believe this is an excellent opportunity to revisit how the state is currently faring and make comparisons to the latter 1990s, when the State's prospects seemed more secure. We divide the discussion into multiple topics, first moving from a state-level perspective to metropolitan/non-metropolitan distinctions, and then examining some broader trends at the rural-urban interface. Finally, we disaggregate the data to present local patterns of evolving communities in Ohio.

One pattern that reveals itself again and again is that Ohio is not faring well on a national basis or even compared to its Great Lake state peers. Moreover, this is not due to recent events but is a result of forces at work during the national economic boom during the latter 1990s, perhaps even dating back to the 1960s (Note 1). Despite stagnant population growth in Ohio on the whole, there has been a substantial redistribution of where Ohioans are residing, with substantial growth in the rural-urban interface areas of the state. So, in addition to the challenges associated with tepid population growth, there are also local and state level challenges arising from the exurbanization of the state.

Though this discussion will answer many questions about the current condition of the state, it will also raise additional questions about why we got ourselves in this situation and how we can do better. This additional analysis requires significantly more background on economic conditions, which is a topic we explore in subsequent policy briefs.

Overview

Using the 2005 US Population Census estimates, this report summarizes recent changes in population across the State of Ohio, and in particular, at Ohio's rural-urban interface. This report contains two sections. The first section provides the context for growth and change in Ohio and focuses on metropolitan and non-metropolitan Ohio. The second section explores growth and change in Ohio's muncipalities. Finally, the Notes and References section contains all pertinent endnotes and citations for this report.

The following are the summary findings for each section, followed by the conclusions of this report.

Section I Findings

- Population growth is a good measure of community well-being because people "vote with their feet" and move to (away from) areas with high (low) quality-of-life and strong (weak) economies.

- Ohio's weak population growth is not a new phenomenon. Since 1995, Ohio ranks among the lowest in the country, even below our Great Lake neighbors, who share many of the same factors impeding faster growth.
- Ohio especially lags the nation in the population growth of its 16 metropolitan areas—with Columbus being the major exception.
- Rural Ohio is almost performing as well as rural America in terms of population growth.
- Revitalizing Ohio's relative prospects relies on generating faster growth in its urban areas.
- While Ohio is not faring well at an aggregate level, there are pockets of growth. Regional population growth is fastest in the 3 C's corridor and slowest along the West Virginia border.
- At finer levels of aggregation, growth is declining within five miles of the urban cores of Ohio's urban centers with at least 50,000 residents. Population growth is quite robust 10 to 15 miles away from the urban core, but rapidly declines thereafter.
- Ohio's growth is sprawling away from its urban cores. Sprawling development could produce other costs in terms of road congestion, lost green space, and environmental degradation.
- There are reasons to believe that the long-run prospects for Appalachia will improve as its beautiful surroundings attract new residents from across the U.S. To increase this likelihood, the region should improve its supporting "social infrastructure."

Section II Findings

- The total number of Ohioans residing in townships has steadily grown over the last 45 years, and so far in the 21st century, it continues to grow substantially.
- The growth in Ohio townships is despite the loss of population due to annexation (which is largely indeterminable) and overall tepid population growth in the state of Ohio.
- Likewise, as indicated in Part 2.0, Ohio's largest cities are, on average, losing population.
- Between 2000 and 2005, the estimated notable growth is occurring in exurban cities, villages and townships. During the 1990s, the highest rates of growth were suburban cities, villages and townships.
- There are many township experiences in Ohio, with some townships governing over 10,000 people and almost an equal amount governing under 500 people.
- Estimates for 2005 show in both absolute and percentage terms that the townships between 1,000 and 2,500 people are expected to grow the most, 45,839 or 40.8%. This is a departure from the 1990 to 2000 period when growth was more evenly distributed in the more populous townships.

Conclusions

- Ohio's weak population growth is not recent. It dates back to at least the middle of the 20th Century.
- Ohio especially lags the nation in the population growth of its 16 metropolitan areas—with Columbus being the exception.
- Rural Ohio is almost performing as well as rural America in terms of population growth.
- Revitalizing Ohio's relative prospects relies on improving growth in its urban areas.
- Although these changing patterns across the state are revealing, to better appreciate their nature, more assessment of changing commuting patterns and shifts in industrial structure are needed. This will be the topic of future policy briefs.

- The trend for Ohio population growth to occur in unincorporated townships continues.
- Township population growth occurs in favored corridors.
- More growth is estimated to be taking place in medium-size townships versus the trend in the 1990s in large townships which suggests a trajectory of change.
- Most population growth is occurring in exurban cities, villages and townships.
- Because of these patterns of population change, two important local governance issues are raised: 1. How do townships with low population best provide services to meet resident's needs? Does it involve joint service relationships with the county or other townships?; and, 2. How do townships with high population best provide services to meet resident's needs, particularly infrastructure? Does it involve cooperative relationships with neighboring municipalities?

Exurban Change Project

The Exurban Change Project provides analysis of economic, social, agricultural, and land use changes of Ohio's regions and localities focusing on areas in rural-urban transition. The overall goal of the project is to perform applied research on these topics and to disseminate data and research results to local officials, professionals, and interested citizens to support their planning and decision making. The project is an effort of the Department of Human & Community Resource Development and Department of Agricultural, Environmental, and Development Economics. All reports (including this report), analysis, and data published by the project can be found online at http://aede.osu.edu/programs/exurbs/.

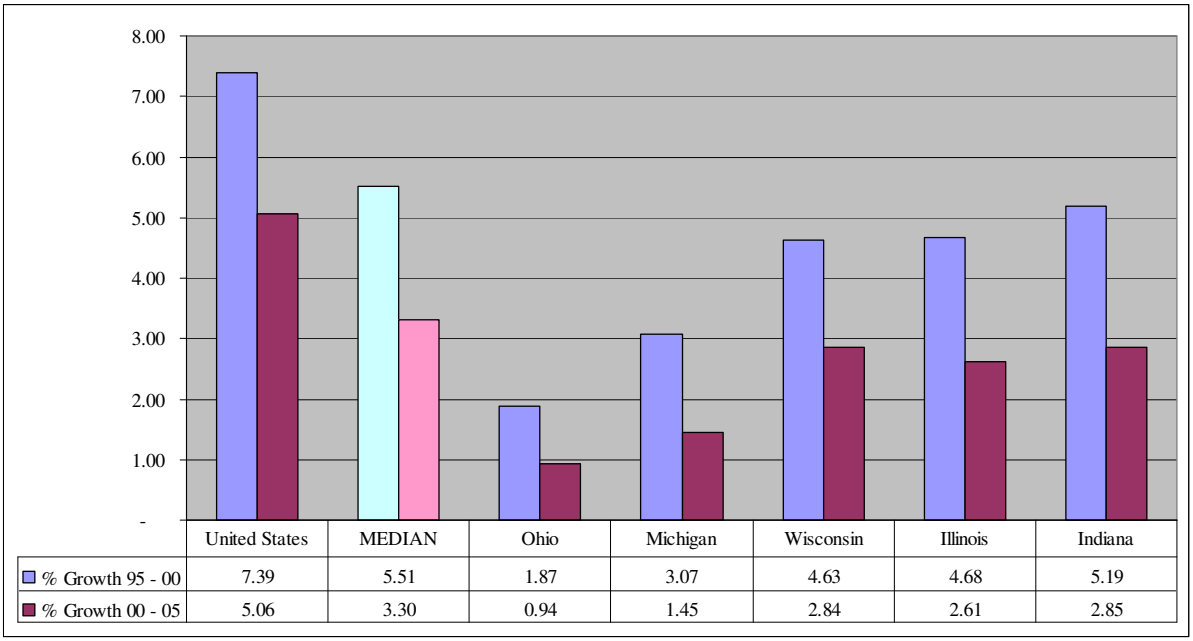
Swank Program in Rural-Urban Policy

The Swank Program in Rural-Urban Policy at The Ohio State University was established in 1995 to provide educational programs, research and expert consultation on economic, environmental, resource, legal and human issues that affect individuals and communities at the rural-urban interface. Competition for resources presents continuing public policy challenges in Ohio where a large agricultural industry surrounds large urban population centers. The goal of the Swank Program in Rural-Urban Policy is to lead a nationally and internationally recognized research and outreach program focused on priority issues related to rural-urban interdependencies. In turn, the Swank Program will help inform and facilitate teaching and student research at Ohio State and elsewhere. Visit the Swank Program web site for publications, presentations, events and the like:
http://aede.osu.edu/programs/Swank/

Section I: Ohio Population Patterns

The media, politicians and the public regularly focus on population change as a way to gauge their community's or region's general health. Though such measures can be simplistic, at least when considering larger regions such as states and metropolitan areas, they do reflect the fact that if an area is relatively attractive to potential residents, people will "vote with their feet" and move to this area—with the opposite applying when an area is unattractive (Note 2). Thus, when properly used with other indicators, population growth can be a very useful benchmark in measuring whether a region is "succeeding" because it reveals what the people are actually doing rather than "saying" what they want to do. Of course, what makes an area attractive is some combination of economic vitality and quality of life, with their relative contributions likely varying across locations. For example, to take two extremes, strong employment conditions likely underlie why people are drawn to remote mining communities, while quality of life would likely be the cause of people moving to pristine or bucolic mountain communities.

U.S. Census Bureau data show that over the 75 year 1930 to 2005 span, U.S. population growth totalled 141%, which is about double the 72% rate in Ohio. Such long-running trends likely underlie the seeming anxiety about the general "health" of the state. In addition, Figure 1 shows that the gap between U.S. and Ohio population growth continues to follow this trend, with the gap even widening in recent years. Specifically, over both the 1995-2000 and 2000-2005 periods, U.S. population grew about four to five per-



	United States	MEDIAN	Ohio	Michigan	Wisconsin	Illinois	Indiana
% Growth 95 - 00	7.39	5.51	1.87	3.07	4.63	4.68	5.19
% Growth 00 - 05	5.06	3.30	0.94	1.45	2.84	2.61	2.85

Figure 1. Ohio growth rate compared to US and other Great Lake States

centage points faster than in Ohio, which is a trend expected to continue for the rest of this decade.

Illustrating this underperformance, Ohio's population growth ranked 49th and 48th among the 50 states over the two five-year periods. This problem appears to be persistent and structural in nature and not merely a short-term cyclical setback. For example, while the domestic auto industry has struggled in recent years, and this has disproportionately hurt Ohio, this cannot explain Ohio's relative weakness in the latter 1990s as the domestic auto industry fared relatively well. Some possible structural causes for Ohio's weakness include weather, business climate, education, and a slow growing industry mix predominated by manufacturing.

Also apparent in Figure 1, is that Ohio's other Great Lake state neighbors all fared relatively better during both five-year periods, though all were below the median U.S. state. Two likely common explanations are that the Great Lakes region shares (1) a relatively slow-growing industry composition such as a heavier reliance on manufacturing and (2) it possesses a climate not typically viewed as ideal. Though Ohio's performance is weaker on average, it does share some of the common problems faced in the entire Great Lakes region.

1.1 Metropolitan/Nonmetropolitan Patterns.

Figure 2 shows the relative growth rate of various urban and rural categories for Ohio and the U.S. between 2000 and 2005. The major grouping is for metropolitan and nonmetropolitan counties, which is a U.S. Census Bureau designation. Roughly a metropolitan area contains a city of at least 50,000 people and any counties that meet a high enough commuting threshold with the metropolitan area.

When comparing these regions, it is striking that the state's metropolitan and nonmetropolitan areas have fared about equally in terms of population growth. Indeed, rural and nonmetropolitan Ohio has only fared just below the national average in terms of population growth. Conversely, Ohio's urban centers are the primary source of the state's lagging performance—in which population growth was a full five percentage points below the national metropolitan average. One thing that is apparent is that solutions for Ohio's relative performance will need to include ways to generate faster economic growth and/or improved quality of life in the state's urban centers for Ohio to reverse course.

The rest of Figure 2 digs deeper into the relative performance of Ohio's metropolitan and nonmetropolitan areas. First, it divides metropolitan Ohio into the over five million residents of the state's three metropolitan areas that encompass the state's largest cities (Cincinnati, Cleveland, and Columbus) and the over four million residents who live in the 13 smaller metropolitan areas. This breakdown shows that relative performance of the state's three largest metropolitan areas is slightly less dreary than the metropolitan average (1.82% growth between 2000-2005), while Ohio's smaller metropolitan areas actually lost population during the period. Yet, this division does not reverse the view that Ohio's problems in population retention primarily reside in the relative performance of its metropolitan areas compared to the national average.

	US Totals				Ohio Totals			
	Population 2000	**Estimated Pop 2005**	**Population Change**	**Percent Pop Change**	**Population 2000**	**Estimated Pop 2005**	**Population Change**	**Percent Pop Change**
Metropolitan	233,288,993	246,464,271	13,175,278	5.65	9,149,958	9,230,063	80,105	0.88
large	149,751,021	158,443,530	8,692,509	5.80	5,326,805	5,423,616	96,811	1.82
medium	38,249,979	40,519,229	2,269,250	5.93	3,092,255	3,086,074	-6,181	-0.20
small	45,287,993	47,501,512	2,213,519	4.89	730,898	720,373	-10,525	-1.44
NonMetropolitan	48,802,840	49,842,987	1,040,147	2.13	2,213,851	2,233,979	20,128	0.91
Micropolitan	28,905,124	29,711,142	806,018	2.79	1,709,490	1,721,369	11,879	0.69
Non-Metro/Non-Micro	19,897,716	20,131,845	234,129	1.18	504,361	512,610	8,249	1.64

Figure 2. Growth rate of Metro, Micro and Nonmetro US areas compared to Ohio, 2000-2005

Figure 2 also divides nonmetropolitan areas into micropolitan counties and what is defined as "core rural" counties. The U.S. government recently defined micropolitan areas to represent counties that contain a city of 10,000-50,000 and any other counties with tight commuting linkages to the micropolitan area. Core rural counties are those without a city of at least 10,000 people and do not have tight commuting linkages to any other micropolitan and metropolitan area. Micropolitan areas in Ohio have almost two million residents and they are growing at about the state average rate of 0.7%, though this somewhat lags the national micropolitan average of 2.8%.

The core rural counties in Ohio only account for about one-half million residents, but their 1.6% population growth rate exceeded the national average of 1.2%. Despite the stereotype held by many, rural Ohio has fared very well despite a very challenging competitive environment created at the state, national, and global levels. Yet, because rural Ohio is linked to the well-being of urban Ohio in terms of markets, jobs for commuters, and state fiscal conditions (and any resulting services), rural Ohio's fate is closely tied to its urban cousins. Perhaps the reason rural Ohio fares better than average rural areas across the U.S. is that no rural Ohio county is far from one of the 20 metropolitan areas that influence the state. For now, rural Ohio is being held back by sluggishness in its neighboring urban centers.

1.2 Ohio's Individual Metropolitan Areas.

Figure 3 divides Ohio's metropolitan areas into small, medium, and large categories based on population. For our purposes, the "large" category is defined as over one million, medium is defined as between 400,000 and one million,

	Estimated Pop 2005	Percent Pop Change, 95-00	Percent Pop Change, 00-05	Ranking Against all Metros in Category
All METROS	9,230,063	1.40	0.88	
Metro - All Large	5,423,616	2.68	1.82	
Cincinnati-Middletown metro	1,588,673	2.69	1.86	36
Cleveland-Elyria-Mentor metro	2,126,318	-0.09	-1.02	47
Columbus metro	1,708,625	6.60	5.54	22
Metro - All Medium	3,086,074	-0.09	-0.20	
Akron metro	702,235	2.02	0.90	57
Canton-Massillon metro	409,996	0.52	0.73	58
Dayton metro	843,577	-1.06	-0.52	62
Toledo metro	656,696	0.37	-0.38	61
Youngstown-Warren-Boardman metro	473,570	-2.41	-1.76	63
Metro - All Small	720,373	1.30	-1.44	
Huntington-Ashland metro	63,112	-0.91	1.32	218
Lima metro	106,234	-1.17	-2.14	238
Mansfield metro	127,949	0.46	-0.67	216
Parkersburg-Marietta-Vienna metro	62,210	-1.35	-1.54	226
Sandusky metro	78,665	-0.01	-1.18	225
Springfield metro	142,376	-1.79	-1.57	229
Weirton-Steubenville metro	70,599	-6.29	-4.19	248
Wheeling metro	69,228	0.11	-1.28	244
ALL NONMETROS	2,233,979	1.58	0.91	
Micropolitan	1,721,369	1.30	0.69	
Non-Metro, Non-Micro	512,610	2.53	1.64	

Figure 3. Ohio metropolitan area's population compared to US metros of similar size

and the small category is defined as a population less than 400,000 (based on 2000 population). The figure reports the 2005 population, 1995-2000 and 2000-2005 population growth, and a ranking that shows how the metropolitan area's population growth stood relative to their peer small, medium, and large U.S. metropolitan counterparts (Note 3).

For the three large Ohio metropolitan areas, Columbus leads the pack with 5.5% population growth in the 2000-2005 period, followed by Cincinnati at 1.9% and Cleveland at -1.0%. In all three cases, this represents a decline of about one percentage point from the 1995-2000 period—though this is consistent with national patterns—and may reflect how international immigrants were measured for 1995 and 2005 (which should not significantly alter *relative* growth patterns).

The relative ranking is more informative. Among the 49 large metropolitan areas in the U.S., Columbus's growth rate is 22nd fastest—or about in the middle. Though a middling performance should not be oversold, Columbus's relative performance against the strong headwinds facing the state is encouraging, and it likely relates to a more favorable industry composition. Cincinnati (36) and particularly Cleveland (47) are ranked much closer to the bottom, illustrating the relative weak performance in two of the three largest cities. In particular, Cleveland's woes are related to long-term restructuring out of its traditional heavy manufacturing industries. Of course, the real question that faces decision makers is why have Ohio cities not been as fast to attract growth industries that have sprung up elsewhere? Ohio is not the first state to ever face industry restructuring. For example, in the middle part of the 20th century New Hampshire faced problems with declining mill towns, but has since revitalized around a more vibrant industry composition, illustrating that recovering from challenging restructuring is possible.

By comparison, nearby large metropolitan areas in other states such as Detroit, Indianapolis, Louisville, and Pittsburgh are respectively ranked: 42, 19, 31, 48 in terms of their national ranking. Thus, much of the relatively weak performance of Ohio's large metropolitan areas in population growth and retention is shared in the neighboring region. Yet, it is hard to imagine that the state's relative standing in the U.S. can improve without Ohio's flagship metropolitan areas becoming stronger engines of growth. Of course, this may require different investment strategies and hard-nosed assessments—e.g., would a dollar of public investment yield higher returns to Ohioans if spent in Cleveland or (say) Columbus. For example, it may be easier to generate growth in the favorable climate surrounding Columbus, but it also could be the case that Cleveland needs to pushed beyond some threshold before stronger growth will take hold.

Regarding Ohio's five medium-sized metropolitan areas, three lost population during 2000-2005. Akron experienced the largest population growth during this period, but it was less than 1%. This weak performance is particularly striking when noting that Ohio's five medium-sized metropolitan areas ranked between 57th to 63rd among the 64 comparable medium-size U.S. metropolitan areas. This pattern occurred in both the 1995-2000 and 2000-2005 periods—again illustrating that Ohio's problems are not a recent cyclical event that can simply be described as (say) adjustments to more global trading (say with China) or events surrounding 9-11, but they are more endemic.

The state's eight small metropolitan areas follow a similar pattern. Because three are in both West Virginia and Ohio, we will first focus on population change on the Ohio side. In this case, remarkably seven lost population in the 2000-2005 period and six lost population during 1995-2000. In particular, the population loss for Weirton-Steubenville continues at an alarming pace in a region that needs healthy urban anchors to spur broader-based regional economic

development. Indeed, only the Ohio portion of Huntington-Ashland escaped the population loss trend among Ohio's small metropolitan areas. Yet, though it is not shown, all eight small metros lost population, including Huntington-Ashland, when including their West Virginia residents. Overall, relative to the other 249 small U.S. metropolitan areas, they ranked between 216 and 248.

Though Ohio's largest cities play a prominent role in the prosperity of the state, small metropolitan areas are often regional anchors that serve wider geographical areas as business hubs and source of jobs for commuters—illustrating rural-urban interdependence. Strong regional centers are one way to ensure that growth is more evenly distributed across the state rather than concentrated in a few large urban centers. Thus, the weak performance of Ohio's regional hubs has adverse implications felt far outside their borders.

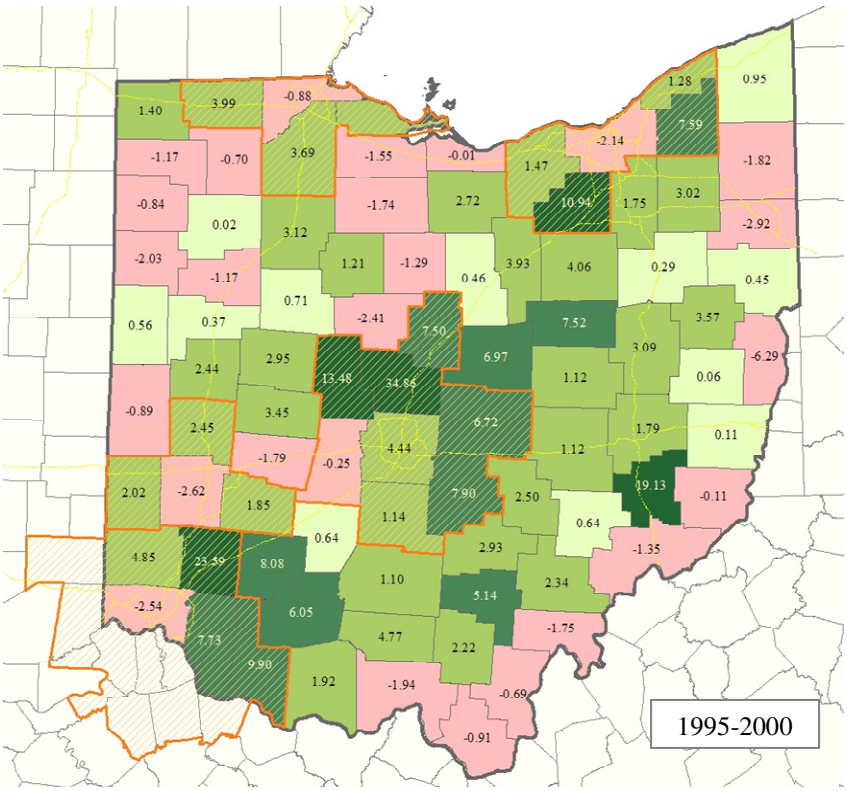
1.3 Regional Patterns in Ohio.

Figure 4 shows two maps of 1995-2000 and 2000-2005 percentage population change at the state level with the five "big city" metropolitan areas being delineated to aid in interpretation (Cincinnati, Cleveland, Columbus, Dayton, and Toledo). Darker shades of green denote faster population growth and pink denotes population loss. As historically the case, the state's fastest population growth tended to occur in the Cincinnati—Columbus—Cleveland 3 C's corridor. Likewise, the weakest population growth occurred in the more "remote" parts of the state—in the Northwest and in the Appalachian counties bordering West Virginia.

These maps illustrate the power of urban anchored regions that lift entire regions—rural and urban alike. For example, though the five "big city" metropolitan areas have struggled in many ways, it is apparent that growth has spread far out from their urban cores. In particular, the 3 C's corridor and exurban counties around Dayton and Toledo have fared better than their neighbors. In this manner, although their boundaries don't appear in this map, the general economic weakness in most Ohio's smaller metropolitan areas has likely depressed growth for their rural and smaller town neighbors.

Possibly one of the most disturbing patterns is the relative hollowing out of larger urban centers. Even at the relatively large scale of the county level, this is apparent for the five "big city" metropolitan core counties. Specifically, Cuyahoga, Hamilton, Lucas, and Montgomery counties lost population in both periods (the respective cores of the Cleveland, Cincinnati, Toledo, and Dayton metropolitan areas). Franklin county (the core county for the Columbus metropolitan area), though growing, had population growth that was almost three percentage points less in the 2000-2005 period than in the preceding five year period.

This hollowing out can be shown at a more fine level by examining estimated population growth using U.S. Census block group data grouped by five mile increments from the geographical center of the nearest urbanized area of at least 50,000 people (Note 4). An urbanized area could be an individual city or a group of contiguous cities such as those surrounding the city of Cleveland. Figure 5 shows population growth at five mile intervals out to 65 miles from the larger cities for the 1990-2000 period and the 2000-2005 period. (Section 2.2 addresses population change in regards to distance from urbanized area as well, but from the standpoint of municipal type.) Though the magnitude of the growth rates differ due to using five and ten year periods, the general pattern is clear that proximity to an urban center is an important determinant of population growth. First, there is ongoing population loss within five miles of an urban center, showing the hollowing out of Ohio's urban core. However, growth turns sharply positive after five miles, peaking at ten to 15 miles from the urban core. After 15 miles, growth begins to decline until reaching the 30-35 mile zone, after which population growth is relatively constant. For perspective, as shown in



Percent Population Change by County 1995-2000

Percent Population Change by County 2000-2005

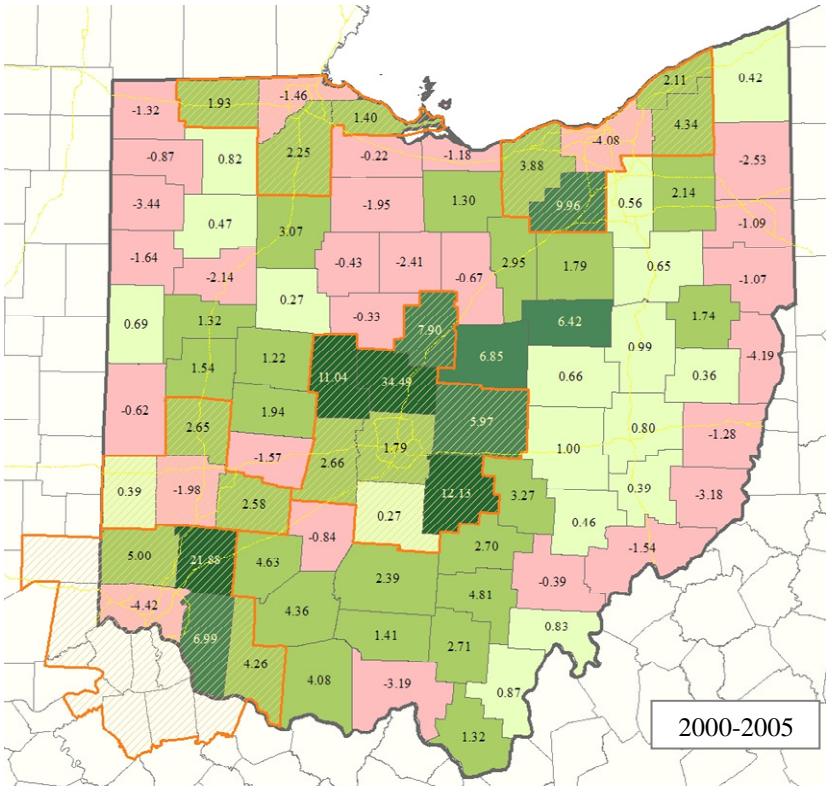


Figure 4. Percent population change by county, 1995-2000 and 2000-2005. The five "big city" metropolitan areas being (Cincinnati, Cleveland, Columbus, Dayton, and Toledo) are outlined in orange.

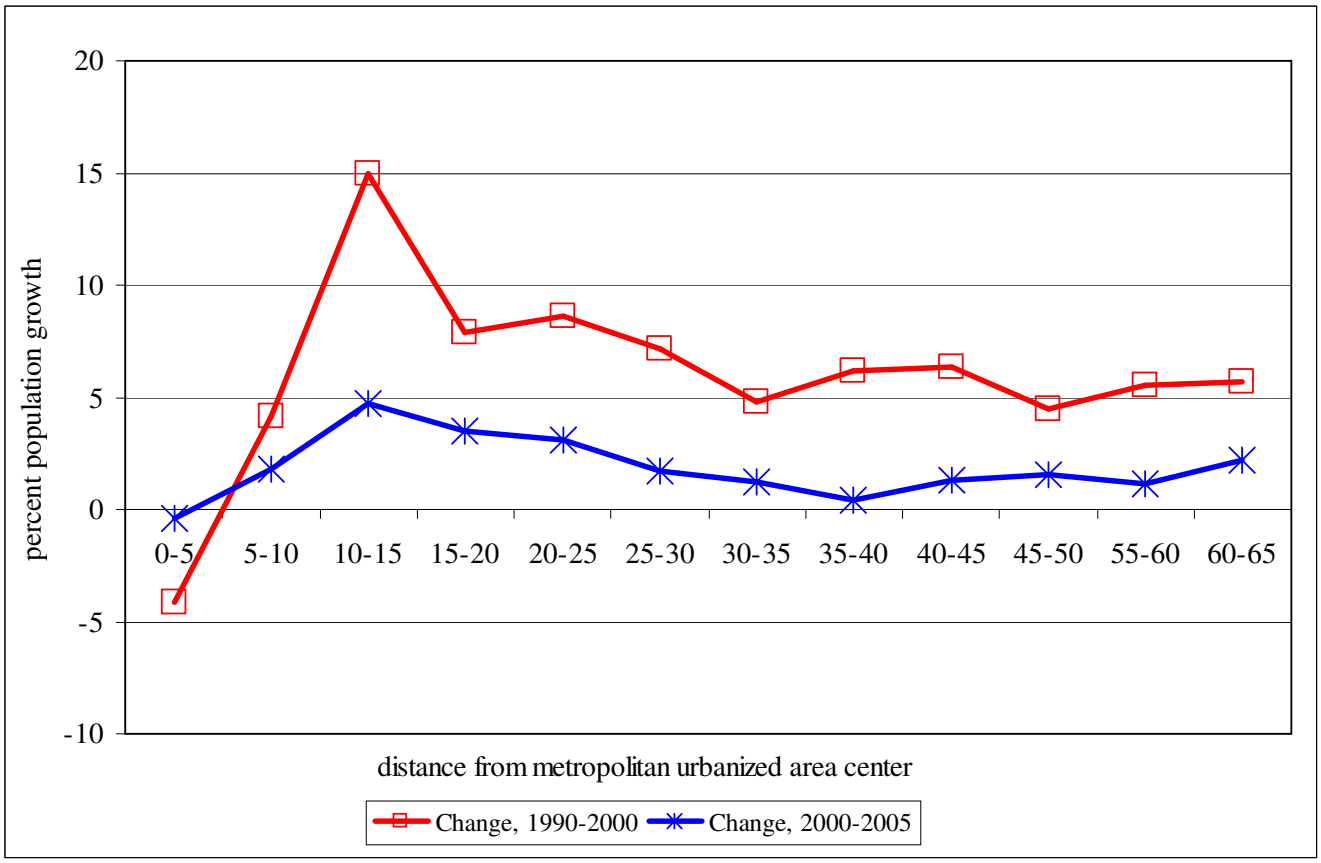


Figure 5. Percent population growth at 5 mile intervals out to 65 miles from the larger cities, 1990-2000 and 2000-2005

Distance from Urbanized Area Center (miles)	Population		
	1990	**2000**	**2005**
0-5	2,692,187	2,580,250	2,568,960
5-10	3,156,988	3,287,827	3,346,849
10-15	1,706,263	1,961,096	2,053,867
15-20	850,420	917,386	949,223
20-25	729,300	791,922	816,234
25-30	582,435	624,114	634,617
30-35	477,817	500,734	506,760
35-40	249,679	265,173	266,297
40-45	170,671	181,437	183,813
45-50	110,080	115,032	116,782
55-60	82,348	86,876	87,858
60-65	37,843	39,988	40,872

Figure 6. Population by 5 mile increments from Ohio's *all* urbanized areas, 1990, 2000 and 2005

Figure 6, more than two million Ohioans reside in the sprawling 10 to 15 mile zone from the center of any urbanized area, while almost six million Ohioans live within ten miles of an urbanized area.

The role of proximity to urban center is even more telling when comparing 2000 to 2005 population growth based on distance to the center of Ohio's big-five cities (Cleveland, Cincinnati, Columbus, Dayton, and Toledo). Figure 7 shows that growth is negative within five miles of the core of these five cities, but turns sharply positive, rising to about 7% growth between ten and 15 miles from the core. Then it sharply falls, with population growth generally being negative outside of 50 miles from Ohio's largest urban cities. Clearly, proximity to one of the large urban centers matters in explaining growth across Ohio. For more remote regions, overcoming this pattern calls for creative strategies that recognize that development usually requires a critical mass of participants to make a difference, and forging more regional partnerships is one way to accomplish this goal.

Shifting to the other side of the distance relationship is the hollowing out of Ohio's urban cores. These trends have implications for the sustainability of the entire urban area—i.e., if the core is weakening, it will likely spill over to the inner-ring suburbs and possibly rot out the entire region. The adverse effects are often not only economic, but can also lead to loss of critical recreational and cultural venues that attract people to the entire region.

Figure 8 shows the difference in county population growth rates between the 2000-2005 and 1995-2000 periods. This map reveals whether there are any changes in growth patterns across larger Ohio regions. For the most part, the map reveals relative stability across the state consistent with a slower growth rate during the most recent period. One possible emerging pattern is that population growth in the C's corridor seems to be slowing relative to the rest of the state—which may signal some competitiveness problems for what has been a relative bright spot. In particular, the core counties of the three C metropolitan areas are faring worse than in the later 1990s.

One bright spot is many less populous counties in the northwestern part of the state are faring better than in the latter 1990s—i.e., north and west of the Dayton and Columbus metropolitan areas and outside of the Toledo metropolitan area. One reason may be stability in the agricultural sector, enhanced value added-operations, and better regional linkages that improve commuting possibilities. Clearly, future developments in the rural northwestern part of Ohio merit further attention.

Likewise, the Appalachian region is illustrating more disparities with some regions doing better and others doing worse. Patterns in Appalachia are interesting because in recent decades across the United States, regions with high natural amenities such as mountains, oceans, and warm winters have experienced robust population growth (Note 5). Many of these rural regions are actually experiencing problems in managing their growth. Clearly, Appalachia faces legacy problems related to perceptions of the region, as well as historic weakness in its industry composition and educational attainment. Yet, the natural beauty of the region gives it a largely untapped advantage. For instance, the emerging artistic community in Nelsonville is a counter-example where an important group is being lured to the region (Note 6). Though the region still has to undergo some industrial restructuring and there is a need to improve its public services such as education, there are reasons to expect that Appalachia's long-term prospects will improve as other high-amenity areas become more congested.

Figure 7. Population growth, 2000-2005, by 5-mile increments from Ohio's big-five cities.

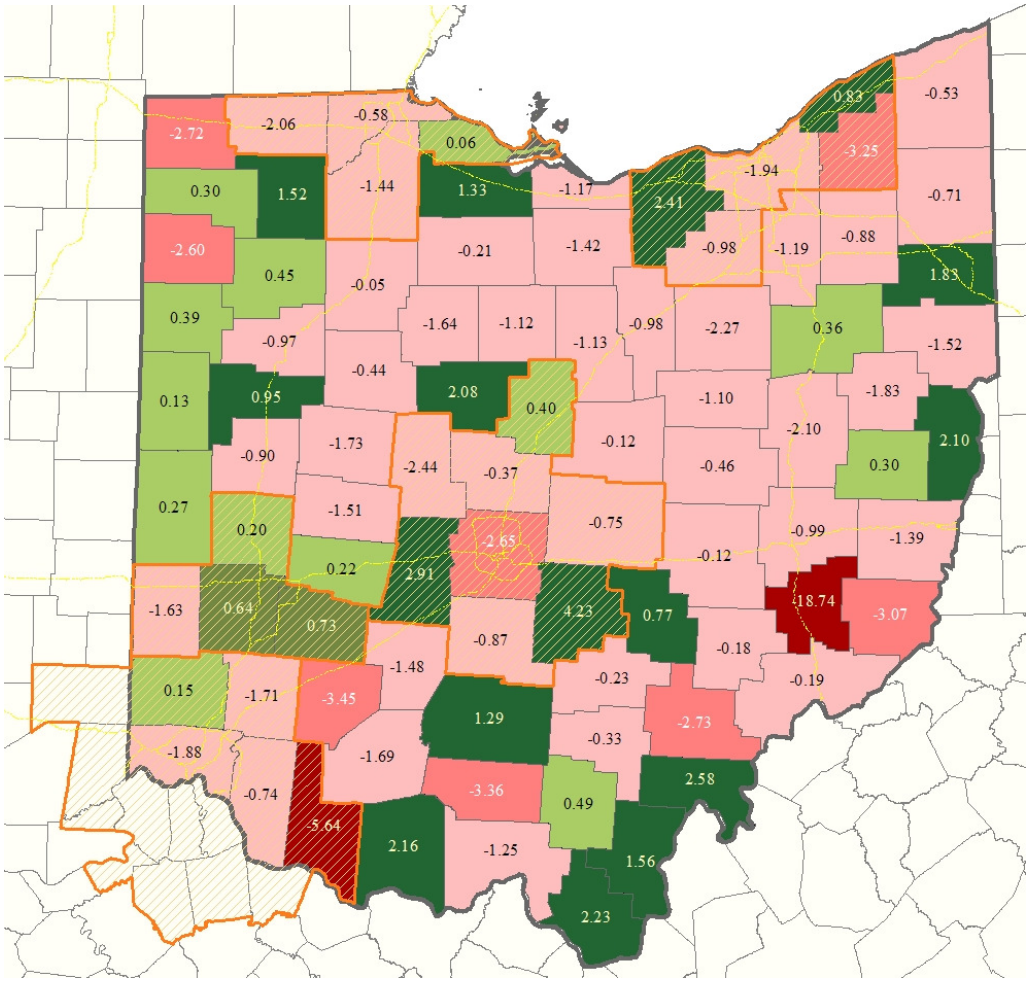


Figure 8. The difference in county population growth rates between the periods of 2000-2005 and 1995-2000

Section II: Population Change in Ohio Municipalities

Thus far, we have addressed historical population growth in Ohio and the current status of Ohio population compared to her neighbors, and to a certain extent, the spatial distribution of population growth and change across the State. These trends have implications for the overall economic health of the state. What about individual Ohio communities, which are the first stop in public service provision? We will now shift our attention and try to disaggregate the patterns of population change in Ohio by examining growth and change by community. It is critical to explore population trends by community because the movement of people, whether increase or decrease, begs the question as to whether communities have the fiscal, social, professional and technical capacity to deal with these changes. Furthermore, it is important to identify the "winners" and "losers" of this population movement to better inform policy decision-making, forecasting and visioning to best address these population dynamics.

When we refer to "municipality type" we are referring to the different kinds of places found in Ohio. This includes cities, villages and townships. These 2,239 legally defined places encompass all areas of the state and represent the three primary sub-county forms of government. The Ohio Code recognizes two different types of incorporated places, cities (with population of 5,000 or more) and villages (population less than 5,000 residents). Both cities and villages are authorized with a variety of powers to govern and manage their local areas. In contrast, townships are unincorporated administrative units of state government and sub-territories of counties. In Ohio, townships have limited authority to manage their local area in comparison to cities or villages.

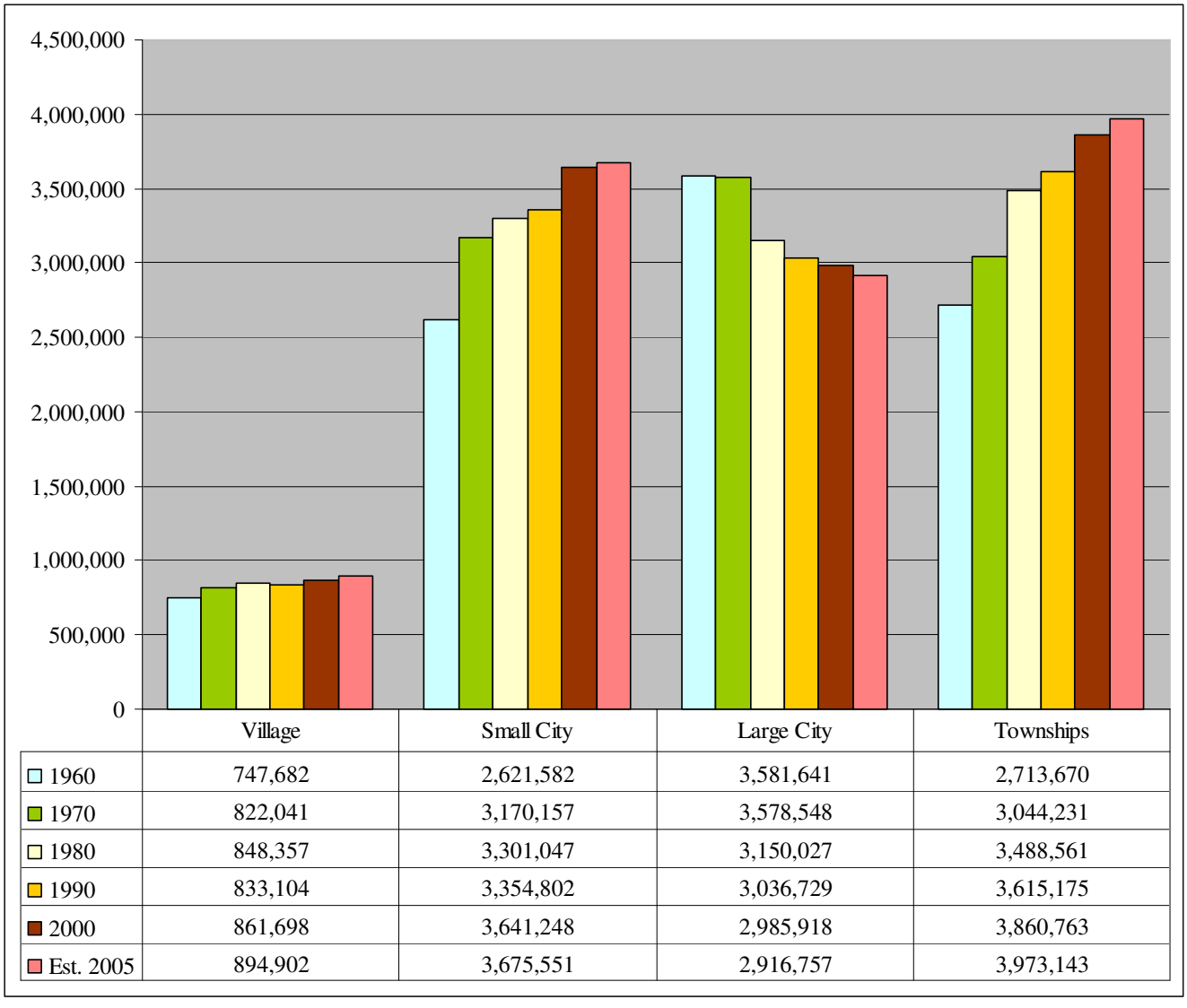
When discussing local policy in Ohio, it is important to note that Ohio is a "home rule" state. Ohio municipalities are granted home rule powers; counties and townships are not. That means that county and township governments may only act as specified by Ohio law, and therefore are limited in their ability, through statute, to affect local land use. Therefore, counties and townships are dependent on the state and the powers it authorizes explicitly to them to handle population and land use change.

2.1 Ohio Population Growth by Municipal Type

Since 1960, the number of Ohioans residing in township areas of the state has steadily climbed from just over 2.7 million in 1960 to nearly four million in 2005 (Figures 9 and 10). A remarkable pattern of sustained growth, despite the fact that township areas of the state are frequently annexed into incorporated places. In con-

Muni Type	2000	Est. 2005	Pop Chg, 00-05 (net)	Pop Chg, 00-05 (%)	% of Total OH Pop, 2005
Village	861,698	894,902	33,204	3.85	7.81
Small City	3,641,248	3,675,551	34,303	0.94	32.07
Large City	2,985,918	2,916,757	-69,161	-2.32	25.45
Townships	3,860,763	3,973,143	112,380	2.91	34.67
Total	11,349,627	11,460,353	110,726	0.98	100.00

Figure 9. Population Growth by Municipal Type, 2000-2005



	Village	Small City	Large City	Townships
1960	747,682	2,621,582	3,581,641	2,713,670
1970	822,041	3,170,157	3,578,548	3,044,231
1980	848,357	3,301,047	3,150,027	3,488,561
1990	833,104	3,354,802	3,036,729	3,615,175
2000	861,698	3,641,248	2,985,918	3,860,763
Est. 2005	894,902	3,675,551	2,916,757	3,973,143

Figure 10. Population Growth by Municipal Type, 1960-2005

trast, the number of Ohioans residing in the state's largest cities (those places with population in excesses of 50,000), has steadily declined from nearly 3.6 million residents in 1960 to just over 2.9 million in 2005. Small cities (population of 5,000 to 50,000), though, have grown, although the amount of growth may be leveling off with around 3.6 million in 2005 residing in these places (up from 2.6 million in 1960). The number of Ohioans residing in villages has remained relatively constant, at between 800,000 and 900,000.

One outcome of this steady growth in Ohioans residing in townships is that a growing proportion of Ohioans are impacted by the decisions of township government. In 1960, 28.1 percent of Ohioans resided in townships; in 2005 an estimated 34.7 reside in townships (Figure 11).

Looking at the most recent estimates of Ohio population by type of place, townships have grown an estimated 112,380 since 2000, an increase of 2.9 percent. On the other hand, Ohio's largest cities are estimated to have loss 69,161 residents since 2000, a loss of nearly 2.3 percent. Small cities grew just over 34,000 or nearly one percent and villages grew just over 33,000 or nearly four percent.

2.2 Ohio Township Population Spatial Distribution

Not all townships, though, are experiencing the same pattern of growth. The distribution of growth across township varies tremendously, with some townships gaining hundreds of residents and some losing population almost as fast. Disparate growth has ramifications for not only the health of the community itself, but the region as a whole. When looking at the spatial arrangement of Ohio's largest and smallest townships in terms of size, two distinct patterns appear (Figures 12 and 13). First, located near the edge of the largest urban areas of the state are townships of substantial size (5,000 or more residents) which are experiencing substantial population growth. Second, in the more rural areas of the state, namely northwestern and southeastern Ohio, townships have much smaller populations (less than 2,000) and generally are declining in size or experiencing tepid population growth. This follows the findings in Section 1.3 regarding distance as an explanatory variable of population change – that general processes are resulting in the hollowing out of Ohio's urban centers and core suburbs, and corresponding growth in Ohio's exurbs.

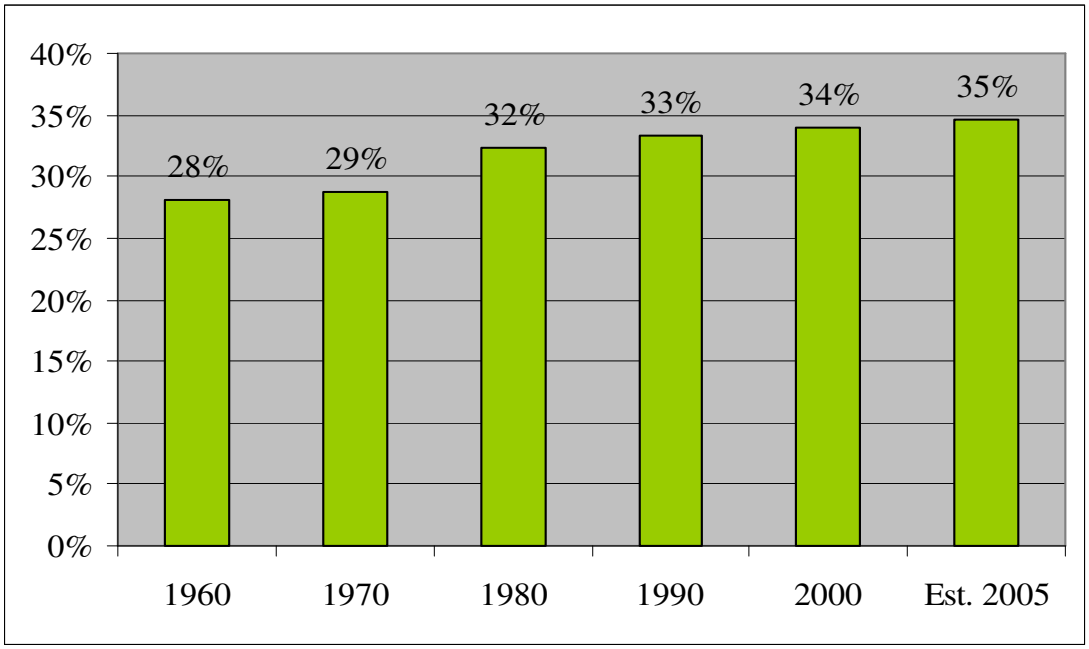


Figure 11. Proportion of Ohioans Living in Townships, 1960-2005

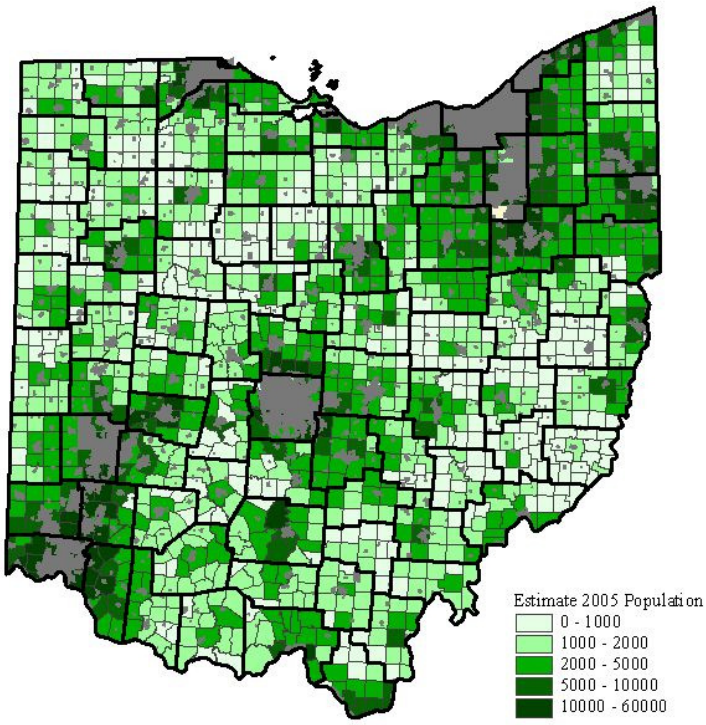


Figure 12.
Ohio Township
Population, 2005

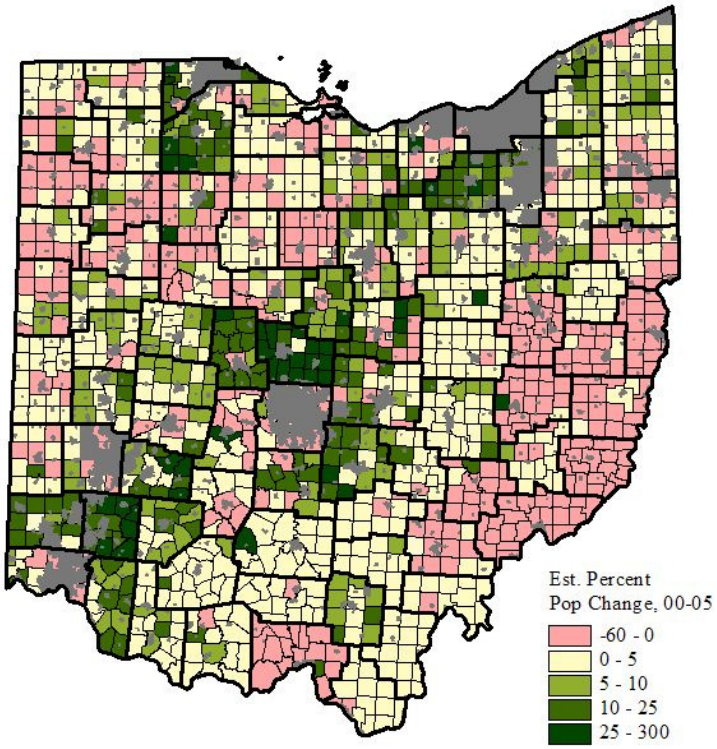


Figure 13.
Estimated
Ohio Township
Percent Population
Change, 2000-05

To further explore this differential pattern of more rural versus more urban township population growth, it is possible to categorize Ohio townships according to their proximity to the most urban areas of the state. Figure 14 presents a map that parses Ohio townships into three zones. The suburban places consists of cities, villages and townships located within (or have some part within) an urbanized area of the state's core metropolitan areas. An exurban zone is comprised of all places located within the average commuting distance of the urbanized area (which we define as between 15 and 35 miles, depending on the size of urbanized area). And a rural zone is comprised of all areas not included in either the suburban or exurban zone.

Figures 15 and 16 report a number of statistics concerning the location of Ohio's population across these various zones and their population changes since 1990. Over 2.1 million Ohioans reside in exurban townships, which have grown steadily since the 1990s. On the other hand, the most rural townships, in the aggregate, have lost population during the 1990s (9.6% loss of population) and this decline has persisted into the 2000s (1.4% loss). Suburban townships grew substantially in the 1990s (12.1%), but that level of growth appears to have moderated in the 2000s (1.4% increase).

Figure 15 also allows for comparisons between township areas and incorporated areas (cities and villages) among each zone. In general the suburban and exurban areas of the state are growing, while the most urban and rural parts of the state are declining regardless of whether they are incorporated or not. This hollowing out of urban cores may lead to higher-cost government services in the long-run as people leave the urbanized core, with an already existing infrastructure, and move to outer places, where a new infrastructure needs to be constructed. Two conditions further exacerbate the costs of providing services. First, the outer suburbs and exurbs are often characterized by lower density development, meaning the same amount of (say) roads and water and sewer lines serves significantly fewer people. Second, Ohio grapples with the "small-box" nature of local government (over 1,300 townships, over 900 cities and villages, in a framework of 88 counties) that creates an intense environment for growth competition. In this manner, it is far too common for local Ohio governments to engage in wasteful competition over jobs with their neighbors rather than trying to attract businesses from outside of Ohio or to encourage home-grown development. Because Ohio is influenced by over 20 urbanized areas, it has a wider scope for this type of sprawling development than most states. If low density development is more expensive to service by governments, this development can make Ohio's tax structure higher (Note 7).

After looking at the data more closely, there are actually three noteworthy patterns in the development of Ohio's township. Two were initially noted—a pattern of population growth at the

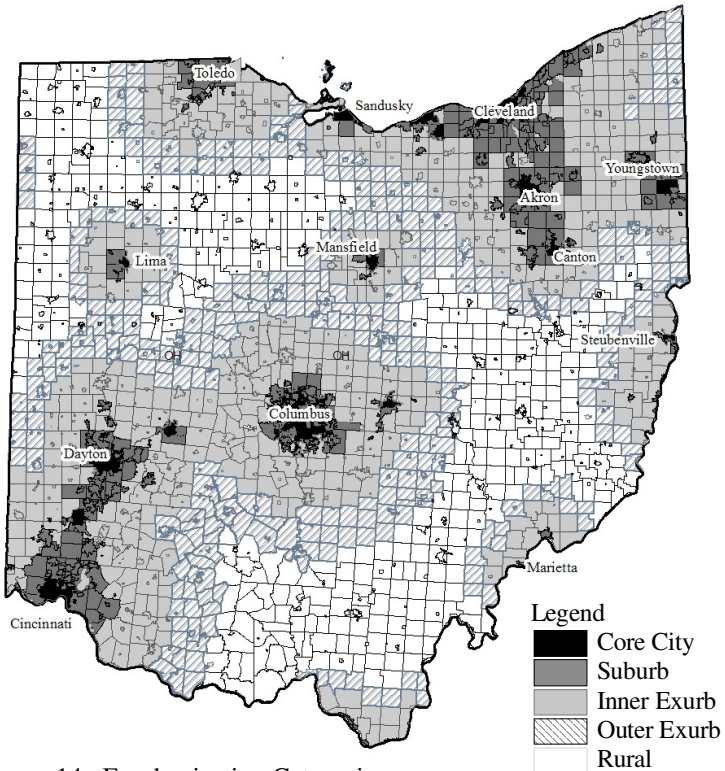


Figure 14. Exurbanization Categories

Muni Type	Population 1990	2000	2005	Pop. Growth (persons) 1990 - 00	2000 - 05	Pop. Growth (%) 1990 - 00	2000 - 05
Core CVs	2,857,665	2,805,276	2,746,287	-52,389	-58,989	-1.83	-2.10
Suburb CVs	2,820,663	3,069,380	3,097,754	248,717	28,374	8.82	0.92
Suburb Townships	1,143,130	1,282,153	1,299,805	139,023	17,652	12.16	1.38
Exurban CVs	1,130,934	1,194,433	1,225,195	63,499	30,762	5.61	2.58
Exurban Townships	1,864,613	2,029,578	2,131,868	164,965	102,290	8.85	5.04
Rural CVs	415,373	419,775	417,974	4,402	-1,801	1.06	-0.43
Rural Townships	607,432	549,032	541,470	-58,400	-7,562	-9.61	-1.38

Figure 15. Ohio Population Growth by Exurban Type

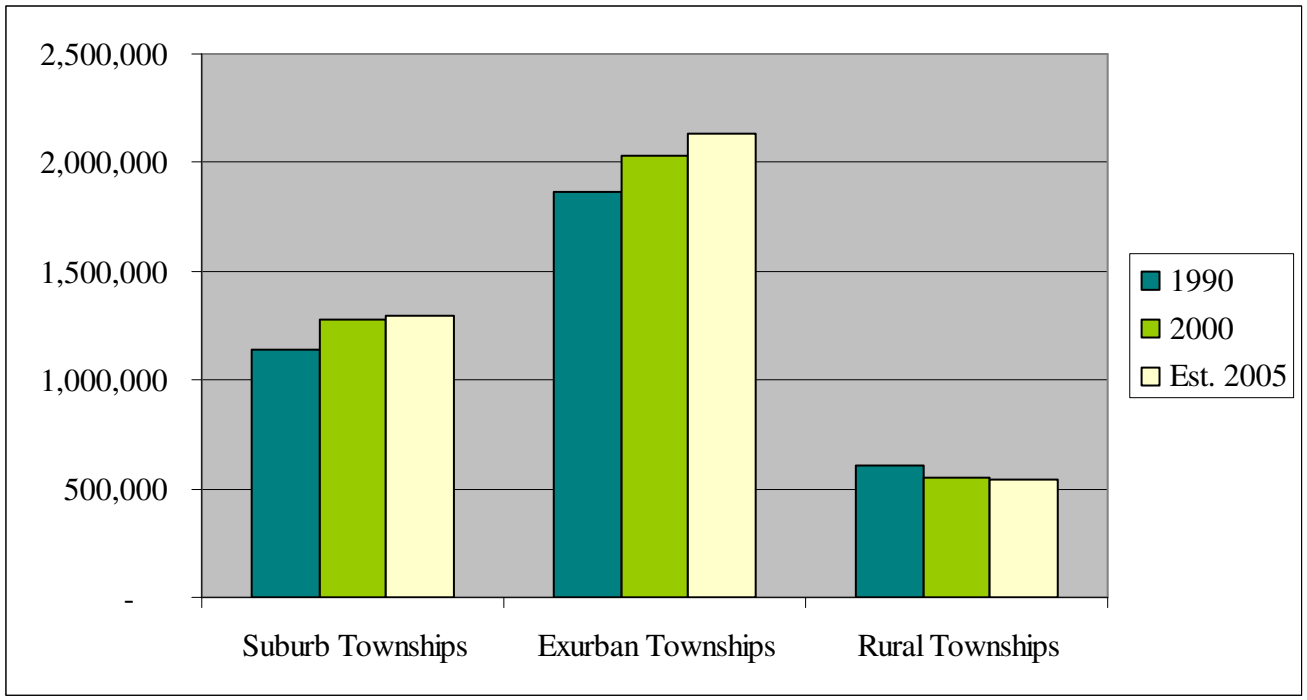


Figure 16. Township Population by Exurban Type

urban edge and a pattern of loss in the most rural parts of the state. The third pattern, to be considered in more detail in the next section, is of very large townships (particularly located in the suburban zone) that may be reaching their physical capacity to easily accommodate substantial population increases. Unlike cities, that have the option to annex land to grow, townships are limited in this regard and once the prime developable land is utilized the potential for further development within the existing land area may be limited.

2.3 Township Population & Growth by Size of Townships

In addition to distinct differences in population growth of Ohio townships along the rural-urban continuum, it is also noteworthy that Ohio townships not only manage varying levels of population growth, but the initial populations they have to manage can vary quite substantially. For example, 70 (or 5.4%) of Ohio's township have populations less than 500 while 55 (or 4.2%) have populations greater than 10,000. Looking even closer at these two extremes, it is estimated that the largest townships are home to nearly 1.2 million persons in 2005 while the smallest townships are home to just over 26,000. Other than the fact that both extremes are townships, governance and local management issues between these two sets likely have very little in common.

An interesting matter suggested by the data in Figures 17 and 18 is the existence of distinct sets of Ohio townships with distinct needs and concerns. For instance, the set of townships with populations greater than 10,000 likely have unique issues compared to the townships with population between 2,500 and 5,000 or the townships with populations less than 1,000. Further, there is the matter of how townships maintain their quality of life or adequately provide necessary services as they steadily grow larger and larger. Previous research suggests that the initial attraction of some to township settings is the open space and rural amenities; a question that might be considered further is what is the optimal balance of population and open space preservation to maintain these amenities. For example, over 30 townships in Ohio have 2005 population densities estimated at over 1,000 people/square mile, which dramatically affects the physical landscape.

					Net Change	
Townships by Size	**N**	**1990**	**2000**	**Est. 2005**	**1990-2000**	**2000-05**
under 500	70	24,848	25,476	26,406	628	930
500 - 1,000	280	204,116	214,823	223,285	10,707	8,462
1,000 - 2,500	573	841,693	903,649	949,488	61,956	45,839
2500 - 5,000	231	743,578	809,832	840,813	66,254	30,981
5,000 - 10,000	99	638,534	693,503	712,817	54,969	19,314
over 10,000	55	1,162,406	1,213,480	1,220,334	51,074	6,854

Figure 17. Population Growth by Township Size, 1990-2000 and 2000-Estimated 2005

					Net Change	
Townships by Size	**N**	**1990**	**2000**	**Est. 2005**	**1990-2000**	**2000-05**
under 500	5.4%	0.7%	0.7%	0.7%	0.3%	0.8%
500 - 1,000	21.4%	5.6%	5.6%	5.6%	4.4%	7.5%
1,000 - 2,500	43.8%	23.3%	23.4%	23.9%	25.2%	40.8%
2500 - 5,000	17.7%	20.6%	21.0%	21.2%	27.0%	27.6%
5,000 - 10,000	7.6%	17.7%	18.0%	17.9%	22.4%	17.2%
over 10,000	4.2%	32.2%	31.4%	30.7%	20.8%	6.1%

Figure 18. Percentage of Total Pop Growth by Township Size, 1990-2000 and 2000-Estimated 2005

Figure 19 helps to further illustrate the possibility of distinct needs by showing the percent increase in population that has occurred for the six size categories. While the total population growth in the largest townships was substantial in the 1990s, the estimated growth in the 2000 is much more modest. It may be that the largest townships are becoming "full" while other townships in the smaller size categories continue to grow. Thus, in one instance the central challenge to a local government may be maintaining and upgrading capacity and services to meet the needs of a more stable or declining population, while in the medium sized places the challenge is managing growth that is relatively high. Finally, it is notable that the estimates for 2005 show in both absolute and percentage terms that the townships between 1,000 and 2,500 people are expected to grow the most, 45,839 or 4.8%. This is a departure from the 1990 to 2000 period when growth was more evenly distributed in the more populous townships. This data point potentially supports the notion that our most populous townships are becoming "full".

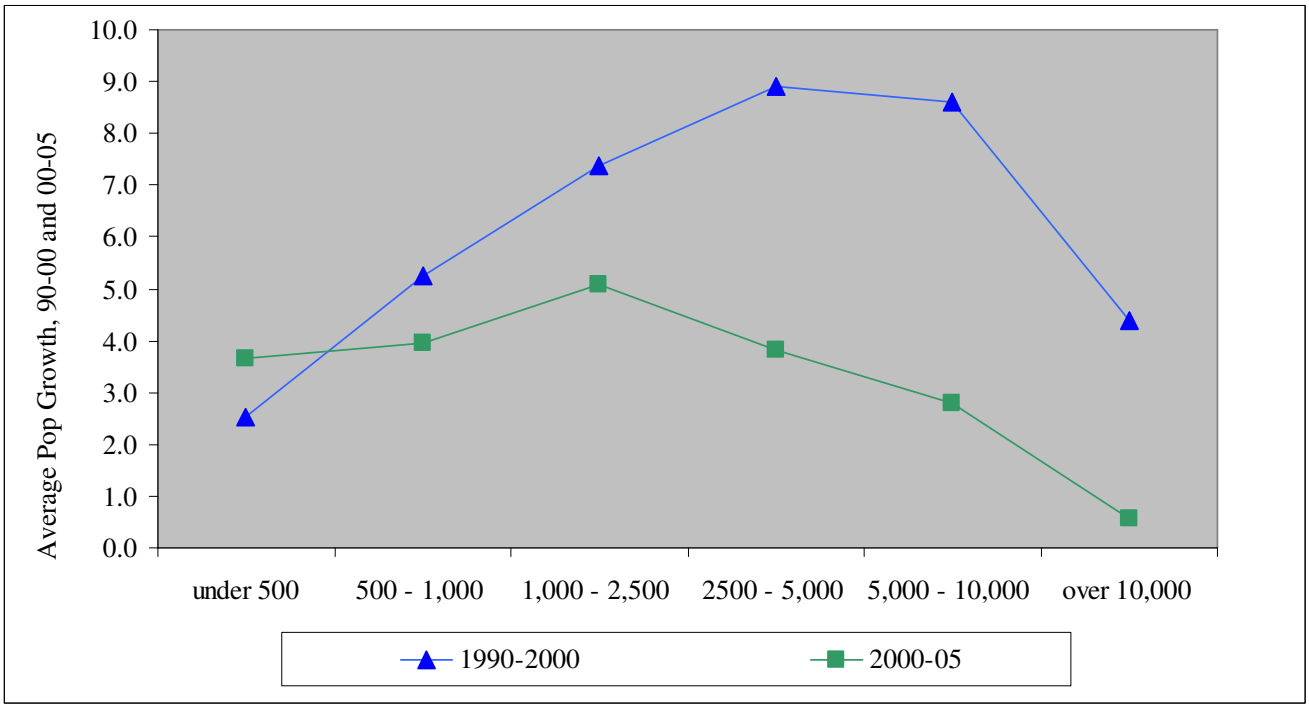


Figure 19. Average Population Growth by Township Size, persons and percentage

Notes and References

Notes.

1. See Partridge and Rickman (2003b; 2006) for a decomposition of U.S. state growth patterns dating back to the late 1960s.

2. For discussion of how to measure utility and the well-being of a region's residents, see Partridge and Rickman (2003b, 2006).

3. In the U.S., there are respectively 49, 64, 249, large, medium, and small metropolitan areas. Note that several Ohio metropolitan areas are partially in West Virginia, Kentucky, Pennsylvania and Indiana. For the population figures in these three metropolitan areas, the table only reports the portion of the population that resides in Ohio. Conversely, the ranking relative to the nation is for the entire metropolitan area and includes any out-of-state population.

4. A subdivision of a census tract, a block group is the smallest geographic unit for which the Census Bureau tabulates sample data. Census tract boundaries normally follow visible features, but may follow governmental unit boundaries and other non-visible features in some instances; they always nest within counties. Census tracts are relatively homogeneous units with respect to population characteristics, economic status, and living conditions at the time of establishment, and cover an average about 4,000 inhabitants.

5. See Deller et al. (2001), Ferguson et al. (2007), and Partridge and Rickman (2003a; 2006) for a discussion of amenity driven growth in the United States.

6. Anonymous. 2006.

7. Ohio has the 5th highest combined state and local tax burden in the nation, which is higher than any other state in the Great Lakes region (*Wall Street Journal*, 2007).

References.

Anonymous. 2006. "Reviving Small Towns: America the Creative," *The Economist* (23 December), pp. 41-42.

Deller, Steven C., Tsung-Hsiu (Sue) Tsai, David W. Marcouiller, and Donald B.K. English, 2001. "The Role of Amenities and Quality of Life in Rural Economic Growth," *American Journal of Agricultural Economics* 83(2), 352-365.

Ferguson, M., K. Ali, M. R. Olfert, and M.D. Partridge, 2007. "Voting with their Feet: Jobs Versus Amenities," *Growth and Change* 38, 77-110.

Partridge, M.D. and D.S. Rickman, 2003a. "Do We Know Economic Development When We See It?" *The Review of Regional Studies* 33(1), 17-39.

_____. 2003b. "The waxing and waning of regional economies: The chicken-egg question of jobs versus people." *Journal of Urban Economics* 53,76-97.

_____. 2006. "Fluctuations in Aggregate U.S. Migration Flows and Regional Labor Market Flexibility." *Southern Economic Journal* 72, 958-980.

Wall Street Journal. 2007. "Democrats and the AMT." April 14-15, p. A8

Ohio Reference Map