

PENNIUR WHITE PAPER

City and Suburbs – Has There Been a Regime Change?

BY ARTHUR ACOLIN

PhD Candidate, Urban Planning and Development, University of Southern California Contact Information: acocapid@usc.edu

RICHARD VOITH

Adjunct Professor of Real Estate, The Wharton School President and Principal of Econsult Solutions, Inc Contact Information: voith@econsult.com

SUSAN WACHTER

Sussman Professor and Professor of Real Estate and Finance, the Wharton School Co-Director, Penn Institute for Urban Research University of Pennsylvania Contact Information: wachter@design.upenn.edu

JUNE 2016

Photo by Joseph Wingenfeld, via Flickr.



INTRODUCTION

Over the last two decades a regime shift has been taking place in the historical centrifugal pattern of urban population and employment trends in American cities. The systematic economic and demographic decline of central cities that was prevalent from the 1960s to the 1990s has slowed and in many cases reversed. While suburbs are still growing, the "inevitable" decline of American cities appears not to be inevitable at all but rather to be a particular historical moment that coincided with the growth of the auto-oriented suburbs and the transition from an industrial to a service oriented economy. Suburban growth is returning to a more sustainable rate of growth that is not predicated on continued city decline. Trends over the last twenty years show continued growth in suburbs but at a slower rate while the population decline of central cities has slowed or even reversed.

Fishman (2005) describes the reversal toward urban centers as a fifth migration characterized by renewed international and domestic migration to the urban core that represents a "countermovement to the continuing power of decentralization" identified by Mumford as the fourth migration. In fact the most recent data show overall faster growth in central cities than in suburbs. The shift in the relative growth of cities v. suburbs is the result of changes that are both external and internal to central cities of metro areas. Prime among these internal forces is that many central cities in the U.S. have completed a transformation from manufacturing to a service oriented economy. The cities that have accomplished this transition are increasingly attractive to young adults, retirees and immigrants that are growing demographic groups (Voith and Wachter 2009). On the other hand, among the external forces are the fiscal and environmental-based regulatory challenges to growth that some of the newer outlying suburbs as well as the older inner ring suburbs face.

This chapter investigates the forces associated with the renewed strength in urban centrality. The first section presents the data on the comeback of cities and points to the reversal of long run trends. The second section reviews key factors that are currently shaping metropolitan areas and driving the renewed growth of cities. The third section details the larger demographic shifts in the US that reinforce these changes. The final section assesses the implications of such a reversal in trends for municipal finances post Great Recession.

A SLOW DOWN OF DECENTRALIZING FORCES TO THE BENEFIT OF CITIES

Beginning in the late 19th century, peripheries grew much faster than urban centers. The process of suburbanization and decentralization was enabled by dramatic decline in transportation costs following the development of the trolley that led to the streetcar suburbs, It then accelerated with the propagation of the personal automobile after World War I and the growth in housing finance that made single-family houses affordable for a larger share of the population (Jackson 1985).

From 1950-1990, the creation of new suburban communities and the decline of central cities reflected strong underlying fundamental economic forces driving decentralization. In that period, cities were perceived as having obsolete housing and commercial structures and high cost due to density making them expensive to live or operate a business in. In addition, the decline of the demand in the urban core was amplified by racial tension, housing policies and lending policies that contributed to disinvesting in the existing stock. At the same time, suburbs with low cost land were well positioned to grow and take advantage of improved automotive technology, highway investment and changing production and truck-based freight transportation.

After being dominated by centrifugal forces in the middle of the 20th century, American urbanism appears to now be more equilibrated with the urban core reestablishing its importance as a place for innovation and consumption amenities, creating jobs and attracting new residents. To track these trends we use data on city population since 1950 from the US census¹. According to these data, between 1950 and 1980, among the

U.S. Census Bureau, Population of the 100 Largest Cities, 1790-1990: http://www.census.gov/population/www/documentation/twps0027/twps0027.html



50 (25) largest cities in 1950, 31 (18) lost population (including New York, Chicago, Boston, Atlanta, Denver, Washington DC, San Francisco, and Seattle). In contrast, between 1980 and 2010, only 17 (6) lost population. In contrast, between 1980 and 2010, only 17 (6) lost population. The data can be sorted by city size and by region, but the overall pattern persists.

Focusing on cities with population greater than 100,000², shown in Table 1, population losses were greatest in the decades 1970 to 1980 and 1980 to 1990, particularly, in the Midwest and the Northeast regions of the country. In the South and West, newer and auto dependent cities grew continuously 1950 through the present; the regime shift—from decline to growth or at least stabilization is centered in the Northeast and Midwest. Notably, some denser cities in the both the South and West—Atlanta, San Francisco, and Seattle did experience significant decline and a subsequent shift toward growth.

The urban depopulation of the 1970s was associated with deindustrialization and manufacturing job losses (Cochrane et al.). But by 1990 the transformation of cities to knowledge based service centers was under way. In fact of the 30 largest cities in 1970, a startling two out of three lost population through 1990, including Atlanta, Boston, Chicago, Denver, Kansas City, New York, Washington DC, San Francisco, and Seattle. By 2000 two out of three cities were growing again (Voith and Wachter 2009), including all of these cities. This pattern of renewed growth of cities is happening across all regions, although some older cities are still losing population mostly in the Midwest (Table 1)³.

 TABLE 1

 Growth by Region, Cities Above 100,000

	Growth Rate, 1970 - 1980	Growth Rate, 1980 - 1990	Growth Rate, 1990 - 2000	Growth Rate, 2000 - 2010
Midwest	-10.1%	-2.9%	3.0%	-1.7%
Northeast	-11.5%	0.3%	4.4%	1.4%
South	7.9%	6.0%	10.4%	8.0%
West	11.2%	18.7%	13.7%	6.5%
Total	-1.6%	5.1%	8.0%	3.9%

Source: US Census Bureau

Prior to this urban revitalization, as cities lost population, suburbs gained. Evidence for the broad trend of past divergence and recent convergence is seen in the relative growth rate of cities and suburbs: while the share of metropolitan residents living in suburbs increased from 23% in 1950 to 45% in 1980, it has since stabilized rising to 50% in 2000 and only increasing by one percentage point over the last decade to 51% in 2010 (Jackson 1985 and NHGIS 2014)⁴.

In addition, the U.S. Census tracks population trends for cities and suburbs for the 50 largest metropolitan areas, as shown in Table 2. Most recently, between 2010 and 2013, central cities in large metropolitan areas saw their population increase by 1.1% annually. This rate of growth was higher than in these metros' suburbs, which grew by 0.9% annually over this period 5 . This stands in stark contrast to decades of faster growth in suburbs

² The source of these data is the population of incorporated places from the U.S. decennial census obtained from NHGIS (2014). http://www.census.gov/population/www/documentation/twpsoo27/twpsoo27.html

³ This revitalization occurred in cities of all sizes. See Kodrzycki and Munoz (2013).

⁴ The data for the suburban share of the population for 1950-1980 come from Jackson (1985) and were updated using NHGIS county and place population data from the U.S. Census Bureau for 1990-2010: https://dataz.nhgis.org/main based on the U.S. Census Bureau list of central cities and metropolitan counties: http://www.census.gov/population/metro/data/def.html

⁵ These figures are based on county and city level estimates for the 50 largest metropolitan areas released annually by the U.S. Census Bureau: http://www.census.gov/popest/methodology/index.html.



than in central cities (1.5% annually during the 1990-2010 period v. 0.9% for central cities) and an absolute decline between 1970 and 1990, -.4% annually, during a period of fast suburban growth, 2.2% annually (NHGIS, 2014). The next section will describe the forces both external and internal to cities that can account for this shift.

 TABLE 2

 Annual Population Change in Central Cities and Suburbs in 50 Largest Metropolitan Areas

	Central Cities	Suburbs		
1970-1990	-0.40%	2.20%		
1990-2000	1.20%	1.80%		
2000-2010	0.40%	1.40%		
2010-2013	1.10%	0.90%		
Source: U.S. Census Bureau				

AMERICAN URBANISM: RENEWED CENTRALITY AND LOCAL GOVERNMENT COMPETITION

Competition among local governments is a key feature of the American urban system. Historically this competition for population and employment has been lost by cities and won by suburbs. The sea shift that appears to be occurring now still reflects the outcome of competition but the forces have turned in favor of centrality. Unlike many countries, local fiscalism is a basic given of American urbanism and that has not changed. What has changed is the forces that advantage or disadvantage centrality. Centrality matters. In fact we argue here that this is not so much a turn as a return to the importance of centrality that was temporarily covered up by short term forces now in abeyance.

The U.S. governance system has long been characterized by the power given to local communities to control land use and use taxing powers to finance the provision of local services. This fiscal localism has historically encouraged the growth of suburbs relative to cities while posing challenges to regions dependent on the health of their central city. In the US context, this has meant that households chose among a large number of small suburban jurisdictions and a single large central city. Frequently, small local governments were better able to compete for population on the basis of taxes and services. In the model of public good provision developed by Tiebout (1956), local governments are service providers competing on tax and services levels to attract residents, who are able to "vote with their feet" by moving to communities that reflect their preferences, balancing the level of local services and taxes.

There are about 36,000 municipalities, towns and townships in the U.S. (U.S. Census 2007) with their own service delivery and taxation not including special districts. According to Tiebout (1956: 419), the more municipalities there are in a region, the greater the competition among them and therefore, given the model's assumptions, the greater the efficiency of the system for household welfare. Although today's competition among local government is also largely interregional and even international.

One of the assumptions on which the Tiebout model's welfare implications relies is the absence of economies of scale in the provision of local services and the absence of externalities that extend beyond the local level, which is of course a simplification that does not hold⁶. Perhaps as importantly, the Tiebout model implicitly assumes that there are no consumption and production agglomeration economies present in local economies.

⁶ Attempts to empirically test this dimension of Tiebout's model have not been conclusive (Glaeser 2012).



In the presence of economies of scale and externalities that extend beyond local borders, Tiebout's finding that competition among local governments generate an efficient delivery of public services and allocation of the population will not hold and the formation of new communities being set up on the fringe to serve particular groups and the concomitant fragmentation of urban areas may be inefficient.

In that system, one of the outcomes of the ability for individuals to sort in homogeneous communities based on their preferences and their ability to pay is the creation of communities that differ in their level of amenities., High skill individuals with higher income, who were first able to afford a car, were able to leave to high amenity suburbs, resulting in the concentration of lower income residents in central cities. A situation reinforced by racial discriminations and tensions that resulted in high levels of segregations with minorities being concentrated in central cities. In addition, while housing is a durable good, it is not permanent and the housing stock declines over time in the absence of reinvestment. In the case of declining cities where house prices are below construction cost, there is expected to be none or little new construction, resulting in a continued depreciation of the housing stock and a decline in the housing supply over time. These reinforcing mechanisms contribute to urban decline being persistent with decline in one decade a strong predictor of decline in the next (Duranton 2013).

Despite this prolonged decline, a number of forces have resulted in a comeback of cities as places for investment. Five main forces external to cities contribute to a redirecting of metropolitan growth to the advantage of central location. First, by the 1990s and 2000s, suburban regions experienced full development given their current zoning constraints, which raised land costs in these regions. Second, suburban jurisdictions discouraged new development in suburbs for fiscal and environmental reasons both of which have the potential to raise the cost of suburban housing. Thus, suburbs are less likely to offer a relative cost of living advantage as compared to cities. Third, the congestion of suburbs caused by their development has led to increased suburb-city and intra suburb travel times as well as costs. In addition, the highway system, a major transportation route for suburban dwellers requires huge capital expenditures for its maintenance. The lack of expansion and depreciation of the highway system along with the increase in travel time and fuel costs has contributed to increase the advantage of cities compared to suburbs. Fourth, many first ring suburbs have started to face issues such as an aging housing stock and an influx of poorer residents. This filtering process as the housing aged and depreciated has made inner ring suburbs accessible to lower income residents who could locate closer to new suburban employment centers (Voith and Wachter 2009). As of 2010, more low income households live in suburban municipalities (16.4 million) than in central cities (13.4 million), the number of lowincome resident living in the suburbs having increased by more than two-third within the decade compared to 29% for cities (Berube and Kneebone 2013)7. These trends have posed fiscal challenges for some suburban jurisdictions. These four factors all raise the cost of living in suburbs compared to their central cities.

The fifth and perhaps most important factor contributing to the reinvention of cities is that high skill workers are more productive in cities and high skill workers want to be in cities (Voith and Wachter 2009). Many U.S. cities have transitioned from an industrial past to a reinvented "knowledge-based" economy. Cities have long been magnets for human capital. They concentrate productive functions that require a high level of skills. Recent research has shown that developing and attracting human capital is particularly important for the revitalization of post-industrial cities. Knowledge workers, the important component of the new economy, are employed by clustered knowledge firms. Cities with higher levels of human capital, as measured by educational achievement experience stronger population growth. Glaeser and Saiz (2003) find that the share of college graduates in the workforce of a city has a positive relationship with its future growth. Other studies (Moretti 2004; Shapiro 2006) also find a positive relationship between population with higher level of education and city growth, Shapiro (2006) and Glaeser and Saiz (2003) research design allow them to interpret this relationship as causal. According to Glaeser and Saiz (2003), human capital impacts growth through increased productivity,

⁷ Nonetheless as of 2010, the suburban poverty rate (11.4%) remained about half that of the central cities rate (20.9%) (Berube and Kneebone 2013).



resulting from either learning and human capital externalities or entrepreneurship and firm growth. It is the skills of a city's workforce that leads to growth, allowing its residents to respond better to economic shocks.

While some thought that globalization and new technologies would make cities obsolete since we would no longer need to live in close proximity to exchange services and ideas or that decentralization forces would be strengthened by new communication modes, globalization and new technologies actually increase the importance of cities for Gaspar and Glaeser (1998). Electronic connections and face-to-face interactions are complements rather than substitutes and cities offer an advantage in making these interactions happen. Cities continue to play the important role of connecting people, enabling them to learn from one another at close proximity. By increasing the level of connectedness, new technologies contribute to increase the number of interpersonal contacts, making proximity even more important (Duranton 1999; Glaeser and Gottlieb 2009).

In addition to the forces that make cities efficient places for innovation and growth for companies, there are powerful reasons why high skilled workers increasingly want to be in cities. Increasing individual incomes have increased the demand for services such as restaurants, museums and concerts that cities are particularly well equipped to provide. Carlino and Saiz (2008) show that cities with high level of local leisure-oriented amenities experienced higher levels of growth over the period 1992 to 2002 as these cities disproportionately attract highly educated individuals, and experience faster housing price appreciation, especially in supply-inelastic markets. Higher housing costs contribute to the relative concentration of high skill workers. The concentration of high skill workers reinforces these amenities and spillovers and leads to further growth of what have been identified as superstar cities (Gyourko and Sinai).

These new trends are driven in part by actions of a new breed of city leaders. To compete for population and employment growth and ensure an improving quality of life for their residents, city leaders are increasingly putting into place policies to capitalize on their assets and institutions, and develop programs to support their growth and vitality. The new entrepreneurial city leaders emerged in the 1990s and the 2000s, personified by a number of mayors who established themselves as city entrepreneurs (see for example Diaz, 2012). These new city managers focus on making their city attractive and bring a renewed confidence in the capacity of cities to deliver services efficiently and be a place for businesses to locate.

DEMOGRAPHICS DRIVING CURRENT AND FUTURE DEMAND FOR URBAN LIVING

Major national demographic forces are leading to a renewed demand for city living, and particularly for cities with access to transit and amenities: changes in age structure, including the aging of the baby boom generation; decrease in household size; and the trajectories of recent immigrants. The impact of changes in population trends on urban areas can be considerable, accelerating central city decline or in the contrary spurring revitalization.

The aging of the US population is now and is likely going forward to strengthen central cities; between 2000 and 2030, the share of the population over 65 is projected to increase from 12 percent to 20 percent (Nelson and Lang 2011). Aging baby-boomers are showing a higher preference for housing in centrally located neighborhoods than earlier in their life cycle, representing a shift in the home buying preferences of a group that represent a major segment of the housing market toward units built in attached structures at higher density than suburban developments (Myers and Pitkin 2009).

In addition, younger households (echo boomers) are increasingly choosing cities. This change is driven by the factors attracting human capital developed in section 1, but also by the relative affordability of central cities, the large stock of rental units and access to jobs. The capacity of central cities to retain younger residents has the potential to fuel the revitalization of older industrial cities.⁸

⁸ The successful revitalization of a number of central cities creates an affordability challenge (Voith and Wachter 2009). While acknowledging the issues associated with growth and gentrification, they are not addressed in this chapter that focuses on the drivers of the comeback of cities.



There has also been a dramatic decline in household size across age groups. In 1950, the average household size was 3.7; in 2010, it is 2.6. The share of single person households has almost doubled: 27% in 2010 compared to 13% in 1950. The fastest growing segment of the population in 2010 consists of the individuals over 65; in 1950 it was those under 25. In 1950, the variables pointed to an increased demand for single-family homes for couples with two young children; in 2010 the variables explain an increased demand for downtown living in higher-density housing.

An additional factor has the potential to revive central cities as a destination for population growth: immigration. Immigrants have greatly contributed to the revitalization of urban neighborhoods: "the foreignborn share of demographic additions to rental demand has been over 40 percent since 1986 and has helped to offset the dearth of native-born young adults in the 1990s" (Myers and Pitkin 2009: 101). The revival of immigration experienced in the 1990s continued in the 2000s. Despite a slowdown at the end of the decade, the number of foreign-born increased by 8.8 million over the decade, creating demand for new rental construction and contributing to the revitalization of many central cities.

More generally the US population is becoming more diverse. By 2040 minorities will represent half of the population compared to less than a quarter in 1990 with minorities projected to account for 90 percent of the population growth between 2010 and 2040 in the US. Minorities are projected to represent almost 100 percent of the growth in major metropolitan areas that have long been the first stop for recent immigrant (Nelson and Lang 2011). Sustained growth in central cities will be highly dependent on the capacities of these places to attract and retain diverse population, providing them with the employment and services they require.

Demographic changes in the US over the next decades will significantly impact the growth of urban areas. These changes represent opportunities for cities if they are able to provide the jobs, housing and amenities demanded by echo baby boomers entering their household formation age, aging baby boomers, and recent immigrants. Providing the housing and associated transportation networks that can accommodate a more diverse and aging population will also be crucial to the revitalization of cities. Finally, offering amenities that create "quality of place" will attract new residents to central cities in larger numbers.

FINANCING URBAN SERVICES: LEGACY ISSUES AND NEW FISCAL SOLUTIONS

It is clear that cities are gaining population as a result of economic fundamentals that favor denser development patterns. Yet there remain legacy fiscal issues that are burdening the current and future growth prospects of many older formerly industrialized cities. Today specifically and most obviously, there remain serious legacy fiscal problems in pension funding and service delivery, such as poorly financed and poorly functioning urban school systems, that threaten the ability of cities to deliver competitive tax and service packages. As a result, the decline of many older and poorer cities continues, evidenced by the recently announced bankruptcy petition of Detroit, potentially the largest municipal bankruptcy in the history of the US.

The Great Recession negatively impacted local government funding sources, worsening these fiscal challenges. In many states constitutions, local governments are mandated to maintain balanced budget (Poterba 1994) forcing them to cut services when revenues are decreasing due to declining property value or population decline. Worsening these fiscal pressures is the decline in funding on the state and federal levels in the aftermath of the Great Recession. While state funding has nearly recovered from the lows of the recession, federal revenue sharing has decreased and may well continue to decrease, putting additional pressure on declining cities. While many central cities have repositioned themselves to be central actors of their recovery and are investing in public goods that are essential to growth, fiscally burdened cities have limited powers to reinvest for the future.

⁹ Immigrants are settling in higher proportions directly in the suburbs instead of the traditional first stop in cities, and as of 2010, 51 percent live in suburbs.

But with thirty-three percent of them settling in central cities, if immigrations flows persist at the level observed from 1990 to 2010, immigrants will contribute to sustain the demand for central cities living (Singer 2011).



The failure to resolve these legacy issues and the associated continuing decline of these cities is not a zero sum gain in which cities' losses are offset by suburban and rural gains. The excessive decline in cities resulting from legacy costs causes the forfeiture of the potential agglomeration benefits of healthy cities and the increase in income and wealth associated derived from those agglomerations. It is important to note that city agglomeration economies benefit cities and their suburbs, increasing overall national productivity (Voith 1998;Voith 1999). More generally, in many cases efficient reinvestment needs to be done on a broader scale and requires regional cooperation especially in transportation networks but also in other areas such as assistance to metropolitan wide industrial clusters (Bartik forthcoming).

In the new American urbanism, city governments are focusing more on economic growth and quality of life. Cities such as Los Angeles, Denver and Chicago are financing new transit systems or retrofitting existing ones with limited federal and state funding, using a mix of financing including tax and toll revenue. In addition strategies to build and enhance existing agglomeration advantages are being acted on. In many cases these strategic investment moves are on the metro scale. Metropolitan areas such as Portland and Minneapolis—St. Paul have adopted strategies to make their region more export-oriented, and to attract foreign direct investment and skilled labor. The renewed strength of cities may in fact encourage these regional partnerships. If so the growth of cities may contribute to the development of metropolitan and regional coordination that would provide a fiscal and planning power that matches the scale at which urban services such as transportation networks can be delivered in an efficient fashion. In the new American urbanism paradigm, central cities are coming back but it remains to be seen if the gains from potential metro wide cooperation can be deployed to strengthen the new centrality and the efficiency of metro regions more broadly. If so, the result of these new fiscal solutions will be to reinforce the new centrality and the comeback of cities.

CONCLUSION

This chapter reports on a rebalancing of American urbanism. After decades of dominating centrifugal forces that saw the decentralization and the deconcentration of American metropolitan areas and the absolute decline of the number of jobs and residents in central cities, the importance of the production and consumption functions of the urban core are being realized and cities are growing again. Some of the forces reviewed in this chapter are external to the city with increasing development costs in suburban locations, increasing automobile travel cost and reduced funding for new road capacity. Forces of recentralization are also and foremost internal to the cities with the transition from an industrial based economy to a knowledge-based economy, cities have reinvented themselves as magnet for human capital and the locus of innovation. Far from becoming obsolete with the development of new communication technologies, some cities are benefiting from the increased importance of proximity in developing new knowledge. The proximity existing in cities enables faster exchange of information and spreading of ideas. In addition, cities benefit from consumption amenities that are sought after by high skilled workers, leading to a renewed interest of firms and residents in locating in central locations. Demographic changes with continued population growth, a large cohort of young adults and retiring baby-boomers along with the increased diversity of the population are also reinforcing the shift toward central cities.

Central cities are facing a number of challenges to take advantage of these forces. They have to develop the governance and fiscal structure to provide affordable housing, quality infrastructures and amenities that will retain existing residents and attract new ones across various income group, education levels and cultural background. If there is one thing that the empirical literature establishes is that cities that are able to form and attract high-skill workers will continue to flourish.



WORK CITED:

Bartik, T. (forthcoming). "Firm-Specific Labor-Demand-Side Economic Development Incentives Policies and Urban Opportunity." in Building Shared Prosperity, Eds: Susan Wachter and Lei Ding, Philadelphia: University of Pennsylvania Press.

Berube, A. and Kneebone, E. (2013). Confronting Suburban Poverty in America. Washington: Brookings Institution Press.

Steven Cochrane, Sophia Koropeckyj, Aaron Smith, Sean Ellis (2013). "Central Cities and Metropolitan Areas: Manufacturing and Nonmanufacturing Employment as Drivers of Growth," in Revitalizing American Cities, Eds: Susan Wachter and Kimberly Zeuli, Philadelphia: University of Pennsylvania Press, 65-80.

Diaz, M. (2012). Miami Transformed Rebuilding America One Neighborhood, One City at a Time, Philadelphia: University of Pennsylvania Press

Duranton, G. (1999). "Distance, land, and proximity: economic analysis and the evolution of cities." Environment and Planning A, 31(12), 2169-2188.

Duranton, G. (2013). "The Growth of Metropolitan Areas in the United States," in Revitalizing American Cities, Eds: Susan Wachter and Kimberly Zeuli, Philadelphia: University of Pennsylvania Press, 26-44.

Fishman, R. (2005). "The Fifth Migration," Journal of the American Planning Association, 71(4), 357-367.

Gaspar, J., and Glaeser, E. L. (1998). "Information technology and the future of cities." Journal of urban economics, 43(1), 136-156.

Glaeser, E. L. (2012). "Urban Public Finance," NBER Working Paper No. 18244.

Glaeser, E. L., and Gottlieb, J. D. (2009). "The wealth of cities: Agglomeration economies and spatial equilibrium in the United States" NBER Working Paper No. 14806.

Jackson, K. T. (1985) Crabgrass frontier: The suburbanization of the United States. London: Oxford University Press.

Joint Center for Housing Studies of Harvard University. (2012). The State of the Nation's Housing 2012, http://jchs.harvard.edu/sites/jchs.harvard.edu/files/son2012.pdf

Kodrzycki, Y. K. and A. P. Muñoz. (2013). "Lessons from Resurgent Mid-Sized

Manufacturing Cities," in Revitalizing American Cities, Eds: Susan Wachter and Kimberly Zeuli, Philadelphia: University of Pennsylvania Press, 83-104.

Moretti, E. (2004). "Estimating the Social Return to Higher Education: Evidence from Longitudinal and Repeated Cross-Sectional Data." Journal of Econometrics, 12:175-212.

Myers, D., and Pitkin, J. (2009). "Demographic forces and turning points in the American City, 1950 to 2040." The Annals of the American Academy of Political and Social Science 626:91-111.

National Historical Geographic Information System. (2014). Minnesota Population Center. Minneapolis, MN: University of Minnesota: http://www.nhgis.org.

Nelson, A. C. and Lang, R. E. (2011). Megapolitan America: A New Vision for Understanding America's Metropolitan Geography. Chicago: American Planning Association.



Perna, L. W., ed. (2012). Preparing Today's Students for Tomorrow's Jobs in Metropolitan America. Philadelphia: University of Pennsylvania Press.

Poterba, J. M. (1994). "State responses to fiscal crises: The effects of budgetary institutions and politics." Journal of political economy 102(4), 799-821.

Rivlin, A. M. (1992). Reviving the American Dream: The Economy, the States, and the Federal Government, Washington, DC: Brookings Press.

Shapiro, J. M. (2006). "Smart cities: quality of life, productivity, and the growth effects of human capital." The Review of Economics and Statistics, 88.2: 324-335.

Tiebout, C. M. (1956). "A pure theory of local expenditures." The Journal of Political Economy 64 (5), 416-424.

U.S. Census Bureau. 2007. Local Governments and Public School Systems by Type and State. http://www.census.gov/govs/cog/GovOrgTabo3ss.html

U.S. Census Bureau. 2012a. Quarterly 2012 National Population Projections, http://www.census.gov/population/projections/data/national/2012/summarytables.html

U.S. Census Bureau. 2012b. Quarterly Summary of State & Local Tax Revenue, http://www.census.gov/govs/qtax/

U.S. Census Bureau. 2013. Population Estimates, http://www.census.gov/popest/data/

U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2011, http://www.fhwa.dot.gov/policyinformation/statistics/2011/disbc.cfm

Voith, R. P. and Wachter, S. M. (2009). "Urban Growth and Housing Affordability: The Conflict." The Annals of the American Academy of Political and Social Science, 626, 112-134.

Voith, R. P. (1998). "Do Suburbs Need Cities?" Journal of Regional Science, 38, 445-464.

Voith, R. P. (1999). "The Suburban Housing Market: The Effects of City and Suburban Employment Growth," (1999) Real Estate Economics, 27(4).