

Where Will Growth Occur?



A Glimpse at USA 2020

Statistical research confirms that Americans want to live, work and play in warm, dry places, but weather is not destiny. Areas that provide desirable social and physical attributes, including the easy and efficient use of automobiles, and embrace development, also attract growth.

Where Will Growth Occur? A Glimpse at USA 2020

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Everyone finds that, even after controlling for a variety of other variables, U.S. population growth is extremely persistent; absent other information, the best way to predict a county's population growth is to look at how much it grew in the past decade. Reflecting on the past quarter century of U.S. population growth, five key factors emerge:

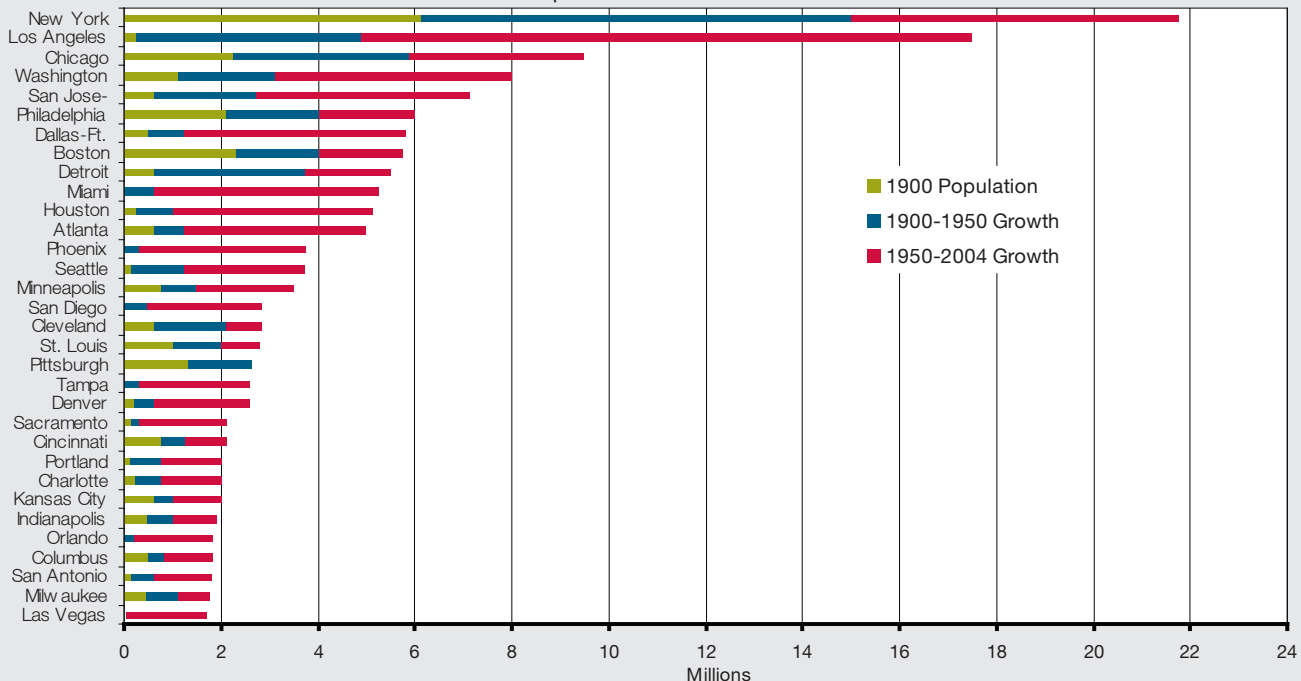
- the level of U.S. growth
- where firms can efficiently produce
- "wild cards"
- where people want to live
- where development is allowed

The first factor is the absolute level of U.S. population growth. Between 1980 and 2007, the population grew by about 75 million people and 35 million households. This population growth, slightly in excess of 1% per annum, is a major distinguishing feature of the U.S. economy relative to other developed economies. About two-thirds of this growth is due to more births than deaths among those already in the country, while the other third is due to immigration (both legal and illegal). Through 2020, this population growth rate will continue, barring any major change in birth rates or immigration.

The American birth rate remains substantially higher than those found in other developed countries, as we have a younger population, and the birth rates of native Americans exceed population replacement rates (partially due to the higher birth rates



Historic Population of U.S. Metro Areas





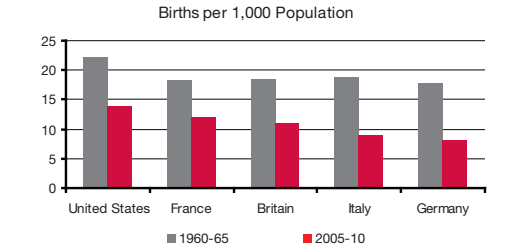
among first- and second-generation immigrant families). Through 2020, the U.S. will add nearly 17.3 million households, assuming the 1.1% historical population growth continues. It is this growth that fuels U.S. real estate development.

The current anti-immigrant movement is sad. Anti-immigrants make the contradictory arguments that “they” drain our welfare system by not working while simultaneously stealing “our” jobs. But these are the same flawed arguments made about our Polish, Jewish, Irish, Italian, Russian, German, Hispanic and Asian ancestors. The truth is that the modest social burden of first-generation immigrants is repaid many times over by the contributions of subsequent generations. Take a look at the names of our job-creating entrepreneurs, and you will see that energized and ambitious immigrants (and their progeny) are the lifeblood of our economic growth.

But not all areas of the country grow equally. Why do some places achieve substantially higher population growth, while others lag far behind? Because high growth occurs where people want to live and play, firms find it efficient to produce, the necessary approvals can be attained to accommodate desired growth and “wild card” factors align.

Where will people want to live and play? Young people today forget that much of the Sun Belt was uninhabitable prior to the proliferation of cheap and reliable air conditioning. Similarly, many of these areas were unsuitable for old manufacturing, as they lacked the necessary water. At the same time, vast swaths of suburban America were inaccessible prior to cheap and widespread ownership of automobiles, and an extensive publicly provided roadway network. At the same time, ever more amenitized automobiles have made auto travel far more enjoyable than in the past, while bus and rail amenities have remained largely unchanged.

Our statistical research (conducted with Wharton School colleague Albert Saiz) confirms that many Americans (including immigrants) prefer to live in warm, dry locations that have considerable sun and little snow. In short, people are moving to “the bright side.” Americans have clearly demonstrated these preferences over the last quarter-century



A Historic Perspective

Top 10 MSA Absolute Population Growth 1980-2000

Los Angeles-Long Beach, CA (PMSA)	2,038,470
Atlanta, GA (MSA)	1,898,202
Riverside-San Bernardino, CA (PMSA)	1,706,325
Phoenix-Mesa, AZ (MSA)	1,665,593
Dallas, TX (PMSA)	1,472,984
Houston, TX (PMSA)	1,414,017
Las Vegas, NV-AZ (MSA)	1,047,239
Chicago, IL (PMSA)	1,044,858
New York, NY (PMSA)	1,044,813
San Diego, CA (MSA)	949,458

Top 10 MSA Percentage Population Growth 1980-2000

Las Vegas, NV-AZ (MSA)	196%
Naples, FL (MSA)	190%
Punta Gorda, FL (MSA)	139%
Austin-San Marcos, TX (MSA)	114%
Fort Myers-Cape Coral, FL (MSA)	113%
Ocala, FL (MSA)	110%
Riverside-San Bernardino, CA (PMSA)	109%
Fort Pierce-Port St. Lucie, FL (MSA)	108%
Orlando, FL (MSA)	104%
Phoenix-Mesa, AZ (MSA)	103%

Bottom 10 MSA Absolute Population Growth 1980-2000

Pittsburgh, PA (MSA)	-211,721
Buffalo-Niagara Falls, NY (MSA)	-72,323
Youngstown-Warren, OH (MSA)	-49,736
Scranton-Wilkes-Barre-Hazleton, PA (MSA)	-35,478
Wheeling, WV-OH (MSA)	-32,490
Johnstown, PA (MSA)	-32,017
Steubenville-Weirton, OH-WV (MSA)	-31,674
Davenport-Moline-Rock Island, IA-IL (MSA)	-26,173
Cleveland-Lorain-Elyria, OH (PMSA)	-25,649
Duluth-Superior, MN-WI (MSA)	-22,633

Bottom 10 MSA Percentage Population Growth 1980-2000

Steubenville-Weirton, OH-WV (MSA)	-19%
Wheeling, WV-OH (MSA)	-18%
Decatur, IL (MSA)	-13%
Johnstown, PA (MSA)	-12%
Enid, OK (MSA)	-9%
Duluth-Superior, MN-WI (MSA)	-8%
Pittsburgh, PA (MSA)	-8%
Casper, WY (MSA)	-8%
Youngstown-Warren, OH (MSA)	-8%
Muncie, IN (MSA)	-8%



by moving en masse to the Sun Belt. Although this trend was begun by footloose retirees, it is now embraced even more so by young workers. As young workers move increasingly to the more desirable climates of the South and West, their parents are drawn to these areas upon retirement to have access to their beloved grandchildren. We also speculate that there may be a geopolitical economic shift from the Atlantic to the Pacific area, motivated by changing trade links and the emergence of China and India as global powerhouses. The impact of globalization on population growth remains an understudied topic for future exploration.

But our research demonstrates that weather is not destiny. Areas that are amenable to the easy and efficient use of automobiles also attract growth. This has generally meant suburban growth, as people seek land and open space for themselves and their children, open roads and a newer housing stock. One of the problems faced by many older cities is that their once modern housing stocks, built in the 1920s and 1950s, are not what people want today. Instead, they seek bigger and nicer kitchens, more bathrooms and large family rooms, none of which exist in the older urban housing stock.

People also prefer areas with better schools. This factor, however, is becoming less important as the proportion of childless households grows, either because they are childless, or are not having children for several years due to delayed marriages and births, or because their children have left them empty nesters. This decreased importance of schools bodes well for central city areas, but should not mask the fact that good schools remain an important growth attractor.

A final factor is that people also seek to be near oceans and mountains for their views and open space. Fun play areas in the mountains and along the coastlines of America have become increasingly attractive as income growth provides greater leisure time, while technology has allowed greater connectivity. Additionally, greater air connectivity has made once remote places accessible.

But firms must also be able to produce efficiently in the desired locations. The switch from an economy focused on trade, industry and manufacturing to one based on services and entertainment has lessened the importance of access to rivers, rail and minerals. In addition, the attraction to a city on the basis of its physical and social environment represents a major paradigm shift; whereas people formerly followed jobs, jobs now also follow workers. Far more important is access to skilled individuals and production networks that generate spillover economies. Thus, locating in areas where young workers want to live has become increasingly important in the 21st century. Similarly, agglomerations of people working on related problems are important, enabling them to share information, infrastructures, a pool of relevant workers, and to reduce the transportation costs of their common input and output transactions.

Our research shows that areas that attract highly educated workers will grow more rapidly, while those with high levels of unemployment and high school dropout rates grow slowly. In short, smart cities grow faster. Related research has found that non-manufacturing employers tend to avoid areas with large manufacturing concentrations. This reflects both a mismatch of job skills and fear that the political influence of a large manufacturing sector will be used to hurt non-manufacturers.

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Research also reveals that diversified economies experience greater growth as diversity increases the chance that an area is able to “ride the right horse.” But it is also true that the more diversified the economy, the less likely it is that an area becomes calcified under the political control of a single industry constituency. No better examples exist than Houston, which boomed as it transformed from an oil city to a diversified economy, while New Orleans remained tied to the oil industry and stagnated.

Research underscores that both firms and individuals avoid high-tax locations, as well as those areas with large governments. In fact, more local government spending always leads to less growth, unless this spending is on highways. Politicians refuse to grasp the simple message that high taxes are the death knell for long-term growth. In today’s world, both firms and individuals are too competitive and mobile to allow themselves to be captured by high tax communities.

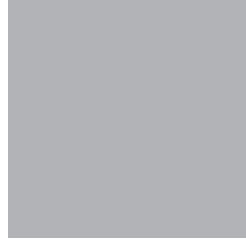
The willingness of people to live in an area, and the desirability of an area for firms looking to produce efficiently, combine to create the latent demand for growth. However, if approvals for the necessary housing and workspace to accommodate growth are difficult, expensive and uncertain, growth is pushed elsewhere. We find that areas with large governments tend to be more interested in protecting the status quo and redistributing income than creating growth opportunities. Our research reveals that a key to allowing growth is a competitive political environment. We find that areas dominated by either Democrats or Republicans tend to grow more slowly than communities where the political control of either party is tenuous. Thus, political competition, like economic competition, fuels growth.

Our research also reveals that past growth begets future growth. Thus, communities that allow growth are communities that have both high levels of latent demand and are willing to approve growth. In addition, these areas possess the social networks that attract growth, particularly among immigrants.

As impact fees increasingly slow and bureaucratic approval processes and NIMBY (“not in my backyard”) opposition increase, many areas have been rendered “unbuildable” in spite of high latent demand. This is particularly true of areas on coasts and near mountains. For example, absent opposition to growth, there is little doubt that locations such as Aspen, Santa Barbara and San Francisco would have experienced far greater increases in population over the past 25 years, as these locations have attributes that are highly sought by both individuals and firms. Their low growth rates reflect regulatory encroachments that make growth impossible.

Research done using the Wharton Decentralization Survey of Growth Controls has repeatedly found that both lower growth rates and higher housing prices result from high local regulatory burdens. My colleague Joe Gyourko has persuasively demonstrated that communities with high regulatory burdens have a large gap between housing prices and construction costs, and also that housing production grinds to a halt in these communities. Thus, the burden to obtain approvals is both direct (you cannot get permits) and indirect (you can get them, but only at enormous risk, delay and cost, which boosts housing prices).

Then there are growth “wild cards.” These include unforeseen immigration waves such as those that fueled the growth of South Florida, as well as the presence of an





extraordinarily successful entrepreneur who generates massive job opportunities, such as Bill Gates in Seattle, Leslie Wexner in Columbus and Michael Dell in Austin. Wherever the next Bill Gates, Leslie Wexner or Michael Dell comes from will experience unforeseen growth. Any of these entrepreneurs could have easily run their firms out of many other cities. But by quirk of history they are where they are, and the region was propelled.

Thirty years ago few would have foreseen the widespread availability of telecommunications, cheap air conditioning, cheap air fares and highly amenitized automobiles. What will be the “wild cards” in this regard through 2020? No one can know, but our research indicates that they will explain as much as a third of the variation in growth across the U.S.

The U.S. population through 2020 will be approximately 15% larger than today.

This represents nearly 45 million people, or some 17 million households. Of these households, approximately 6 million will be immigrants. In terms of demographics, Baby Boomers will be solidly in their retirement years by the end of 2020, while the Baby Echo will be entering early middle age. To put things in perspective, 45 million people make up slightly more than the combined state populations of New York and Texas. It is also the equivalent to the combined state populations of Ohio, Indiana, Illinois, Michigan and Wisconsin. Forty-five million is also slightly greater than the combined populations of Spain and Ireland.

This population increase requires significant real estate and infrastructure development. For example, if this new population has the density of the Philadelphia region, then this population growth will require nearly 2.5 million acres. Alternatively assuming population densities of the Miami or Los Angeles regions yields a requirement of 2.9 million and 4 million acres, respectively. If on the other hand, lower densities are assumed, such as those of Atlanta and Phoenix, accommodating a population increase of 45 million will necessitate the development of 8.7 million to 11.3 million acres. Keep in mind that although these densities are based on the number of households per acre, they implicitly incorporate the need for other property sector developments and infrastructure. We estimate that of the required land, more than 60% will be for residential use, with the remainder for office, retail, industrial, hotel, institutional and infrastructure.

Where will these 45 million people choose to live? Retiring aging Boomers will want to locate where it is warm, dry and close to their grandchildren. This bodes well for the Sun Belt, particularly drier parts of the Sun Belt. Areas such as Tucson, Reno and Jacksonville are poised to become what Phoenix, Las Vegas and Orlando were over the past 25 years. Aging Echo workers will increasingly work in the service sector and select places that are attractive and exciting. Since they will defer marriages and births longer than any previous generation, they will desire urban environments in which to meet and interface. This bodes well for those areas that truly have resident cities that function for young people.

Our research also reveals that the immigrant population will move to where immigrants are already a large portion of the population. Thus, communities with large immigrant populations will continue to grow disproportionately.

Real household incomes will be roughly 50% higher – rising to roughly \$75,000 in today’s dollars – in 2020. This real income increase means that greater amenities will



Estimated Land Absorption through 2020		
Estimated population growth		45,000,000
People per U.S. household*		2.6
Estimated household growth		17,308,119
		Est. Required
City	HH/Acre*	Acres
Philadelphia	6.83	2,534,308
Miami	5.82	2,971,572
Los Angeles	4.25	4,073,354
Atlanta	1.99	8,695,903
Phoenix	1.53	11,295,157

* Source: U.S. Census, Linneman Associates





be sought than ever before. Specifically, tomorrow's typical consumer will have the income capacity of today's 80th percentile household. This means more gadgets, more travel and more cosmetic surgery. It also means that the housing stock designed for a century earlier will have a harder time competing even for these households. Similarly, real wealth will increase by approximately 50% to over \$600,000 per household. This greater wealth will take the form of more housing. It will also be used to allow children and grandchildren to own their homes earlier than ever before, and to retire far more comfortably than ever before. Higher real incomes and real wealth will propel the demand to live near oceans, major lakes and mountains, and in the best areas of our best urban centers.

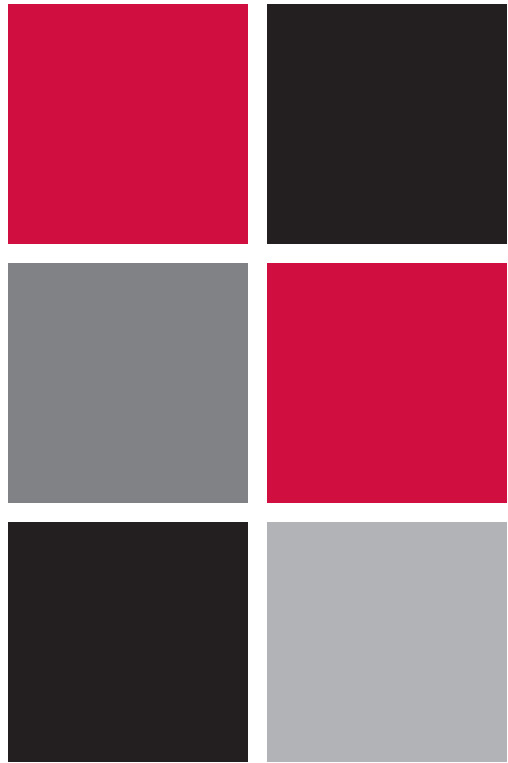
Income and wealth growth will also fuel the desire for safer and "easier" neighborhoods. As Boomers age with greater wealth and income than any previous generation, they will desire easy-to-navigate, warm, safe communities. However, they will also seek access to the best medical facilities in the world. The emergence of high-quality medical facilities throughout the Sun Belt will continue in order to satisfy this rich-retiree population.

Firms will find it efficient to produce where the talent desires to live. This is often confused with where there are universities. However, there is no evidence that the presence of great universities is essential to a community's growth. While the nation's need for great universities should not be underestimated, the best young talent tends to be footloose upon graduation, migrating to where there are the best job networks and "excitement." Many firms in industries such as healthcare will expand to the Sun Belt to be near their retiree customer base.

Access to major air hubs with international connectivity will become increasingly relevant. While we do not believe that technology will make personal relationships obsolete, we do believe that video linkages and similar technologies will become ubiquitous. As a result, people will become more mobile during their work week, while seeking agglomerations of similar workers.

Compared to 2000, Atlanta, New York City, Chicago, Phoenix and Dallas lead the pack in our population growth forecasts on an absolute level, while Charlottesville, Santa Fe, Yuma, Yuba City and Laredo show the strongest percentage growth through 2020. Six markets appear on both top 40 growth lists through 2020: Atlanta (64%), Austin (67%), Charlotte (59%), Las Vegas (86%), Orlando (56%) and Raleigh (70%). Combined, the top 10 absolute growth markets are expected to add 17 million new people between 2000 and 2020. On the other hand, the top 10 percentage growth markets will increase in population by just 1.8 million on an aggregate basis over the same period.

The aggregate sample population (250 million) in our statistical analysis represents about 83% of the total 2007 population of 300 million. We project that the sample urban population will experience a net increase of 33 million people, or about 13%, by 2020. In terms of accommodating growth, almost every community has raised the entry barrier ever higher. This favors rehabbing existing properties over building new ones, as development opposition is generally less for existing properties than for new



Real household incomes will be roughly 50% higher in 2020. This means more gadgets, more travel and more cosmetic surgery. It also means that housing stock designed for a century earlier will have an even harder time competing for these households.



developments. Our research finds that opposition to growth is not a matter of Democrats or Republicans, nor is it highly related to income. Instead, it relates to openness to change and a competitive political environment. Those areas that have grown since 1980 (controlling for the factors we have discussed above), will continue to grow because of their openness to growth.

A Look at 2020

Top 40 MSA Absolute Population Growth 2000-2020

Top 40 MSA Percentage Population Growth 2000-2020

Atlanta, GA (MSA)	2,653,713	Charlottesville, VA (MSA)	213%
New York, NY (PMSA)	1,973,443	Santa Fe, NM (MSA)	151%
Chicago, IL (PMSA)	1,907,876	Yuma, AZ (MSA)	147%
Phoenix-Mesa, AZ (MSA)	1,739,038	Yuba City, CA (MSA)	116%
Dallas, TX (PMSA)	1,624,924	Laredo, TX (MSA)	110%
Houston, TX (PMSA)	1,552,407	Richland-Kennebec-Pasco, WA (MSA)	107%
Los Angeles-Long Beach, CA (PMSA)	1,454,986	Las Cruces, NM (MSA)	103%
Washington, DC-MD-VA-WV (PMSA)	1,389,616	Sioux City, IA-NE (MSA)	102%
Las Vegas, NV-AZ (MSA)	1,353,348	Merced, CA (MSA)	102%
Riverside-San Bernardino, CA (PMSA)	1,250,558	Yolo, CA (PMSA)	98%
Denver, CO (PMSA)	1,161,122	Athens, GA (MSA)	86%
Minneapolis-St. Paul, MN-WI (MSA)	1,062,726	Naples, FL (MSA)	86%
Orlando, FL (MSA)	932,809	Las Vegas, NV-AZ (MSA)	86%
Boston-Worcester-Lawrence-Lowell-Brocktn, MA-NH (NECMA)	927,833	Reno, NV (MSA)	76%
Charlotte-Gastonia-Rock Hill, NC-SC (MSA)	884,449	Greeley, CO (PMSA)	73%
Orange County, CA (PMSA)	853,954	Boise City, ID (MSA)	73%
Austin-San Marcos, TX (MSA)	843,168	Roanoke, VA (MSA)	71%
Raleigh-Durham-Chapel Hill, NC (MSA)	837,397	Raleigh-Durham-Chapel Hill, NC (MSA)	70%
Portland-Vancouver, OR-WA (PMSA)	834,720	McAllen-Edinburg-Mission, TX (MSA)	69%
San Francisco, CA (PMSA)	776,304	Austin-San Marcos, TX (MSA)	67%
Oakland, CA (PMSA)	771,010	Atlanta, GA (MSA)	64%
Miami, FL (PMSA)	722,061	Vallejo-Fairfield-Napa, CA (PMSA)	63%
Fort Lauderdale, FL (PMSA)	677,134	Albany, GA (MSA)	62%
Seattle-Bellevue-Everett, WA (PMSA)	667,900	Boulder-Longmont, CO (PMSA)	62%
Indianapolis, IN (MSA)	662,227	Santa Cruz-Watsonville, CA (PMSA)	61%
Fort Worth-Arlington, TX (PMSA)	652,796	Albuquerque, NM (MSA)	61%
San Diego, CA (MSA)	634,780	Richmond-Petersburg, VA (MSA)	61%
Philadelphia, PA-NJ (PMSA)	604,153	Iowa City, IA (MSA)	60%
Greensboro-Winston-Salem-High Point, NC (MSA)	600,863	Hickory-Morganton-Lenoir, NC (MSA)	60%
Tampa-St. Petersburg-Clearwater, FL (MSA)	587,691	Tallahassee, FL (MSA)	59%
San Antonio, TX (MSA)	560,660	Charlotte-Gastonia-Rock Hill, NC-SC (MSA)	59%
Sacramento, CA (PMSA)	538,971	Fayetteville-Springdale-Rogers, AR (MSA)	58%
Detroit, MI (PMSA)	531,480	Myrtle Beach, SC (MSA)	58%
San Jose, CA (PMSA)	497,900	Pueblo, CO (MSA)	58%
Newark, NJ (PMSA)	491,983	Salinas, CA (MSA)	57%
Fresno, CA (MSA)	478,509	Medford-Ashland, OR (MSA)	57%
Baltimore, MD (PMSA)	467,127	Orlando, FL (MSA)	56%
West Palm Beach-Boca Raton, FL (MSA)	466,127	Rochester, MN (MSA)	56%
Kansas City, MO-KS (MSA)	455,683	Yakima, WA (MSA)	55%
Middlesex-Somerset-Hunterdon, NJ (PMSA)	447,355	Modesto, CA (MSA)	55%



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