



The Brookings Institution

Metropolitan Policy Program
Amy Liu, Deputy Director



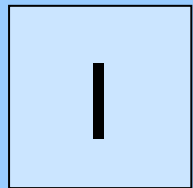
The Benefits of High Density Development and the Implications for Florida

Florida Chapter of the American Planning Association's
2006 Annual Conference
September 27 – 30, 2006



Economic and Fiscal Benefits of Density

- I Today's demographic and market changes favor more housing choices and quality, dense development
- II Greater density may be in order because projected population trends demand new ways to accommodate future growth
- III Academic research demonstrates that dense, compact development yields both economic and fiscal benefits
- IV However, given the opportunity and benefits, the progress to create more dense development is mixed
- V Implications



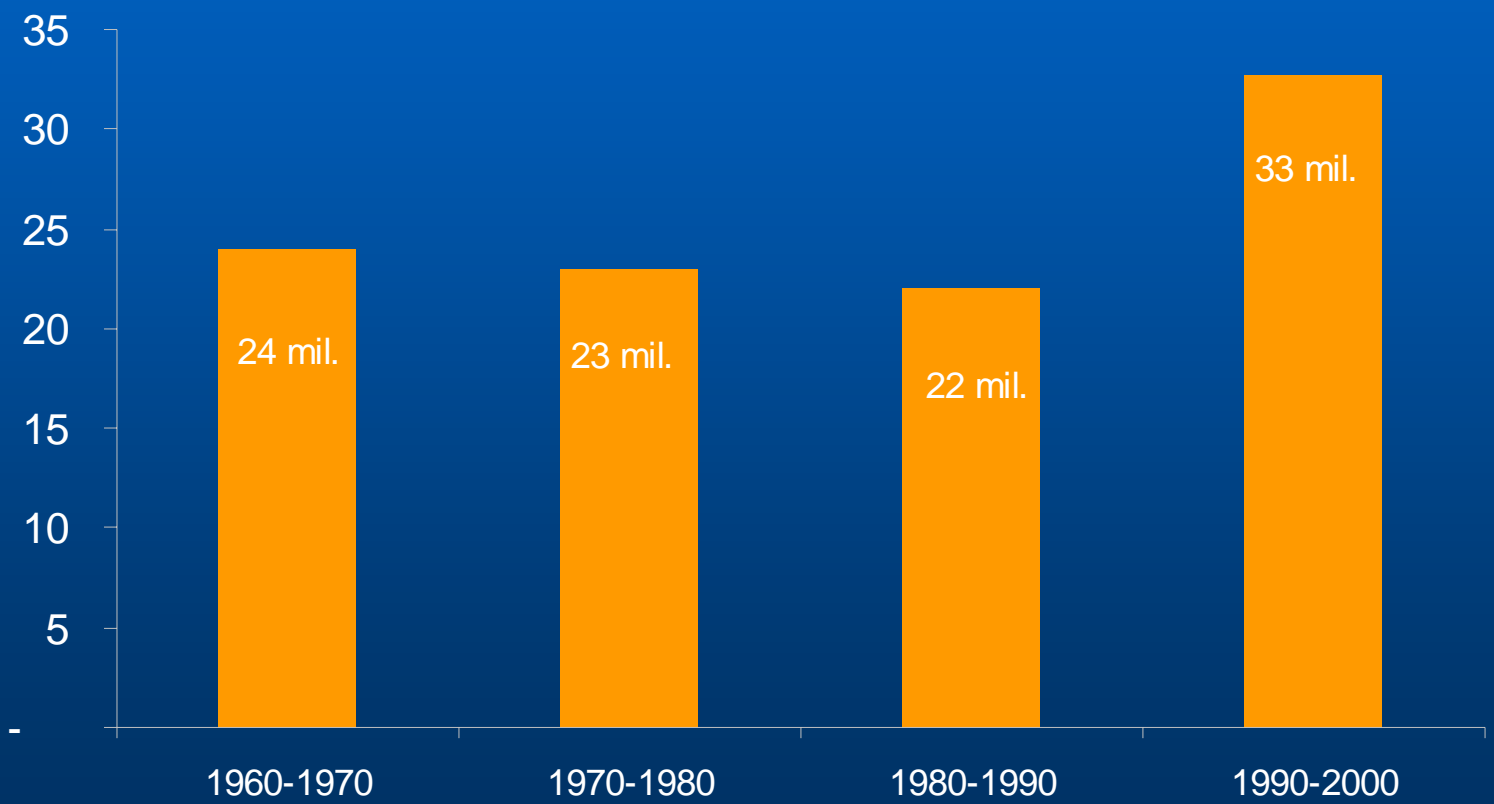
Today's demographic and market changes favor more housing choices and quality, dense development



U.S. population growth in the 1990s was much stronger than in previous decades, achieving 281 million persons by 2000

Change in Millions of persons

Source: U.S. Census Bureau



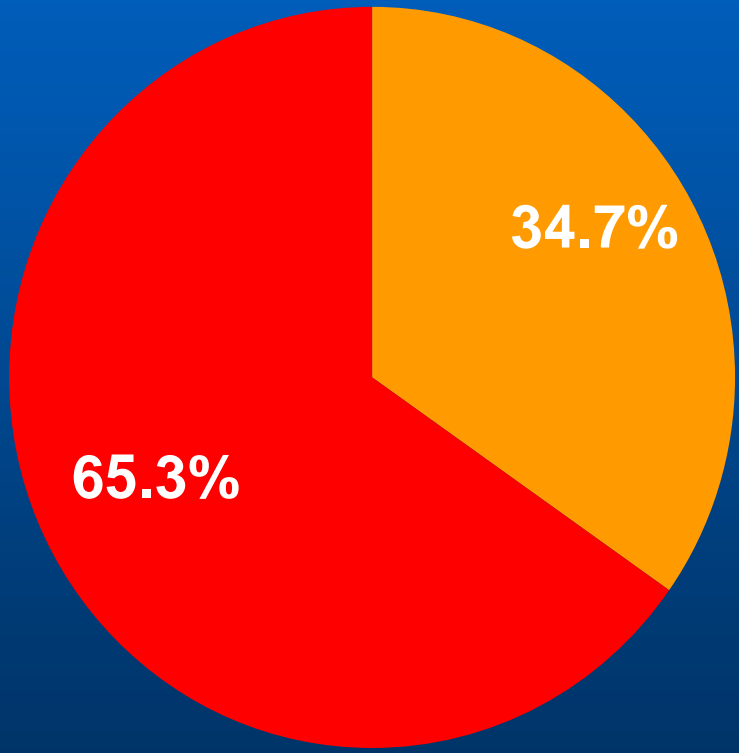


Immigration explains a large portion of this population growth

Components of population change, 1990-2000

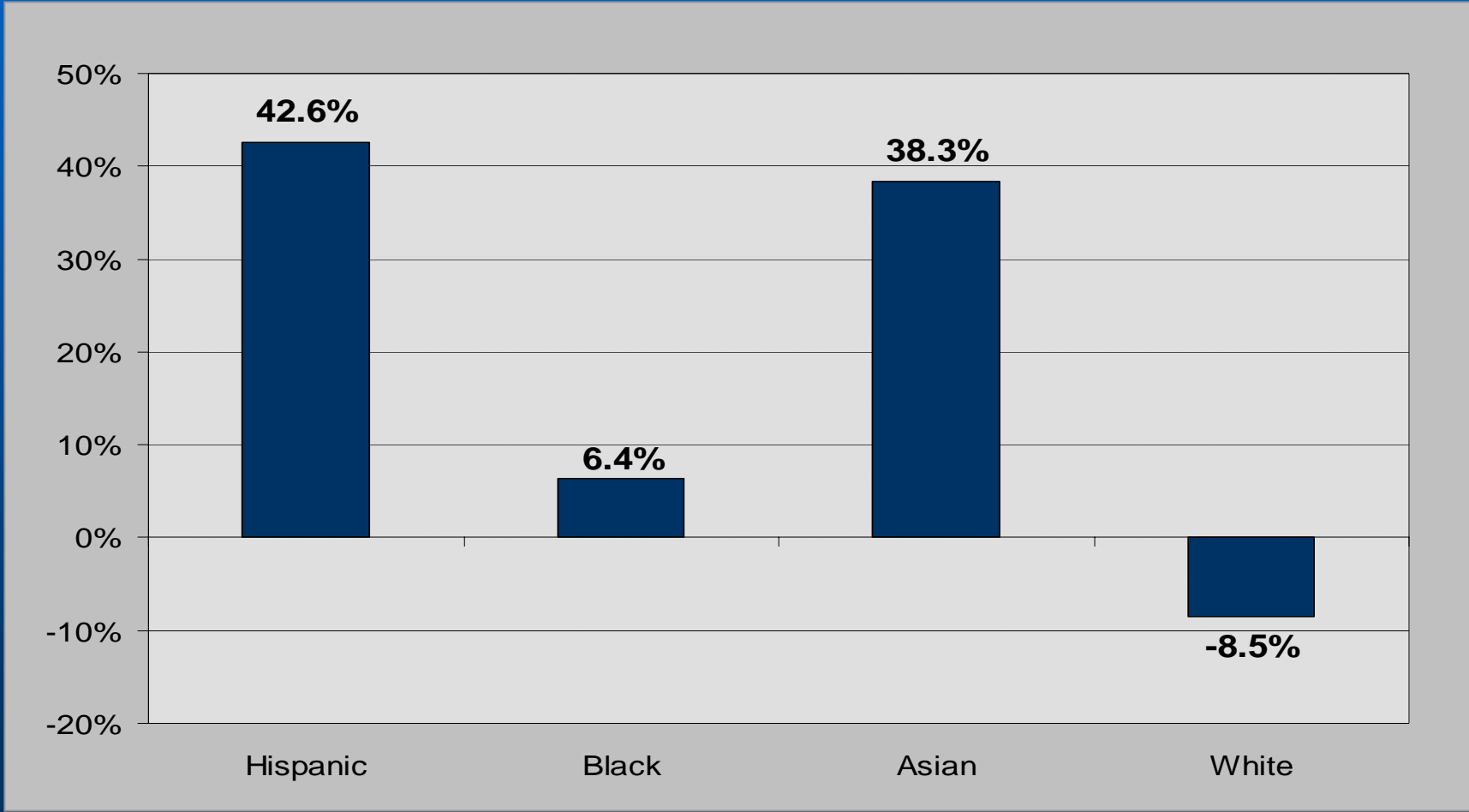
Source: U.S. Census Bureau

- Net Immigration
- Natural Increase





In fact, new Asians and Hispanics fueled central city growth in the 1990s

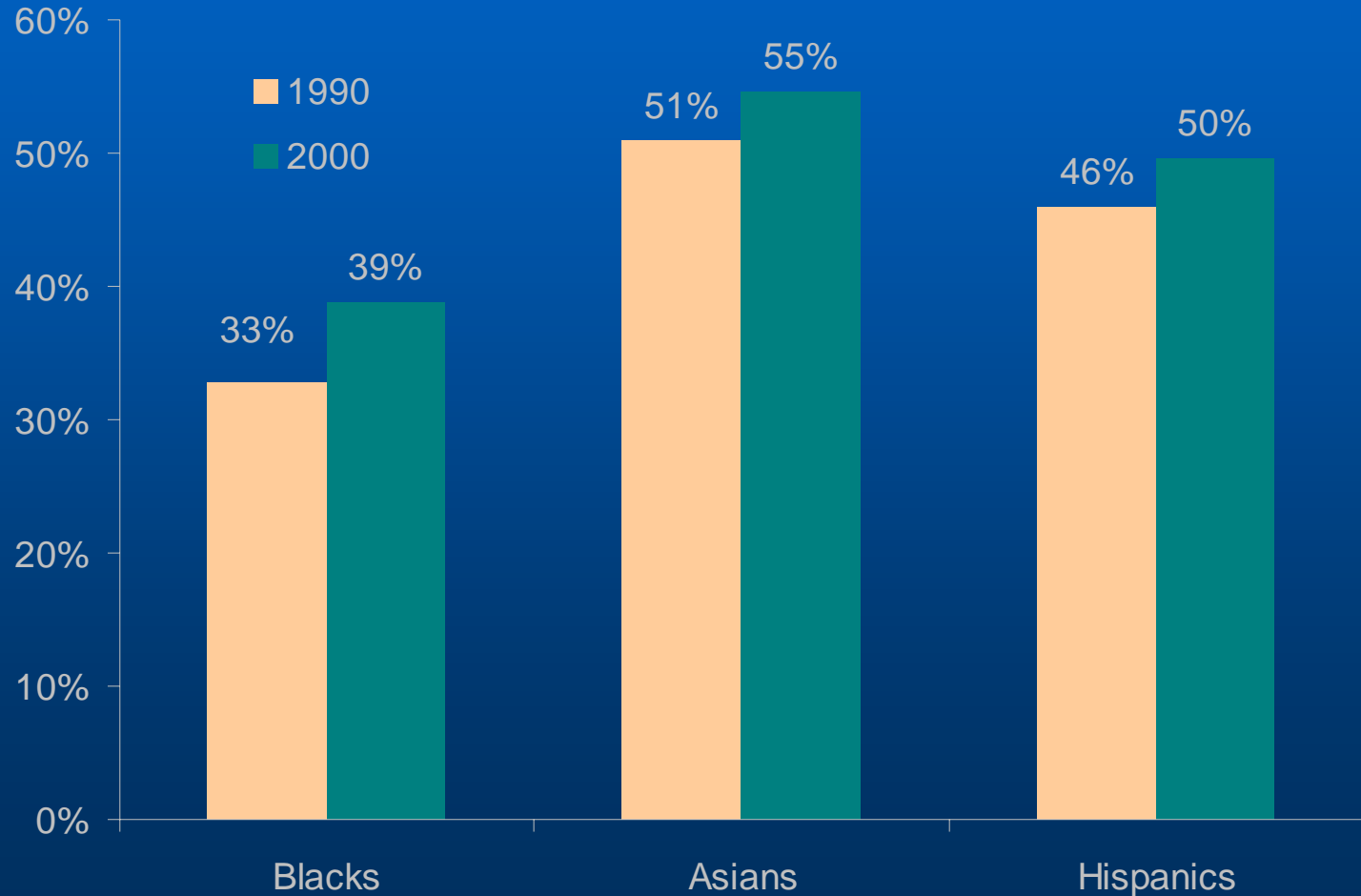




But suburbs also diversified; the share of each racial/ethnic group living in the suburbs increased substantially

Share of population by race and ethnicity, 1990-2000

Source: U.S. Census Bureau





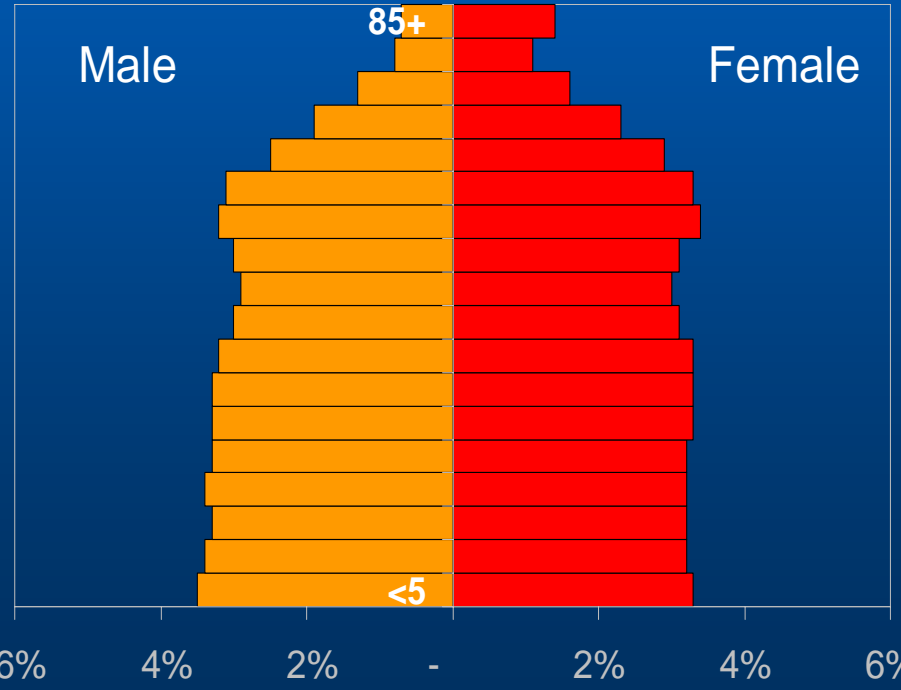
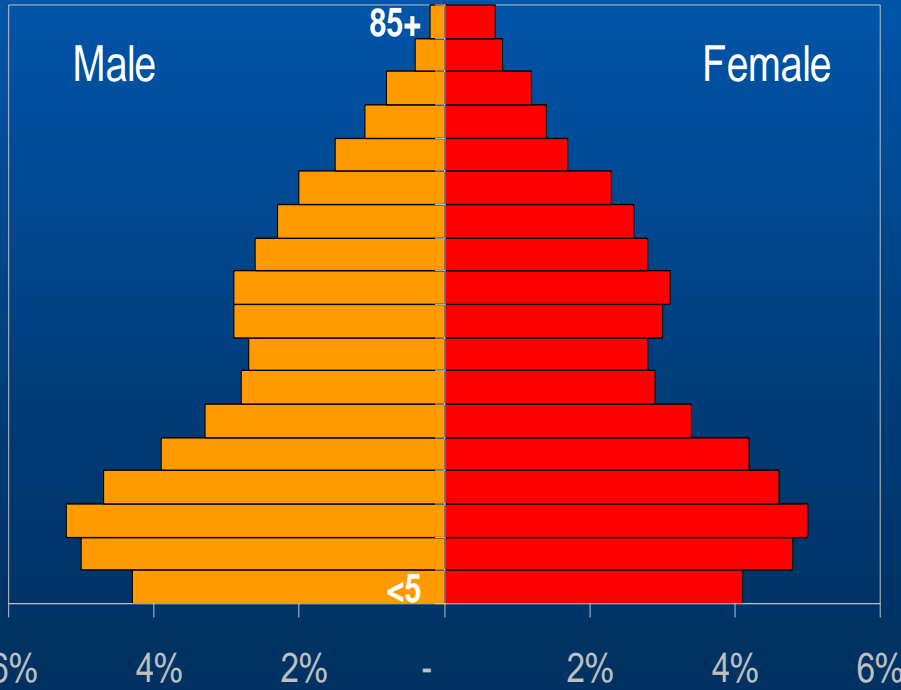
As America grows it is also aging

Share of Population in Age Groups

Source:
U.S. Census Bureau

1970

2020

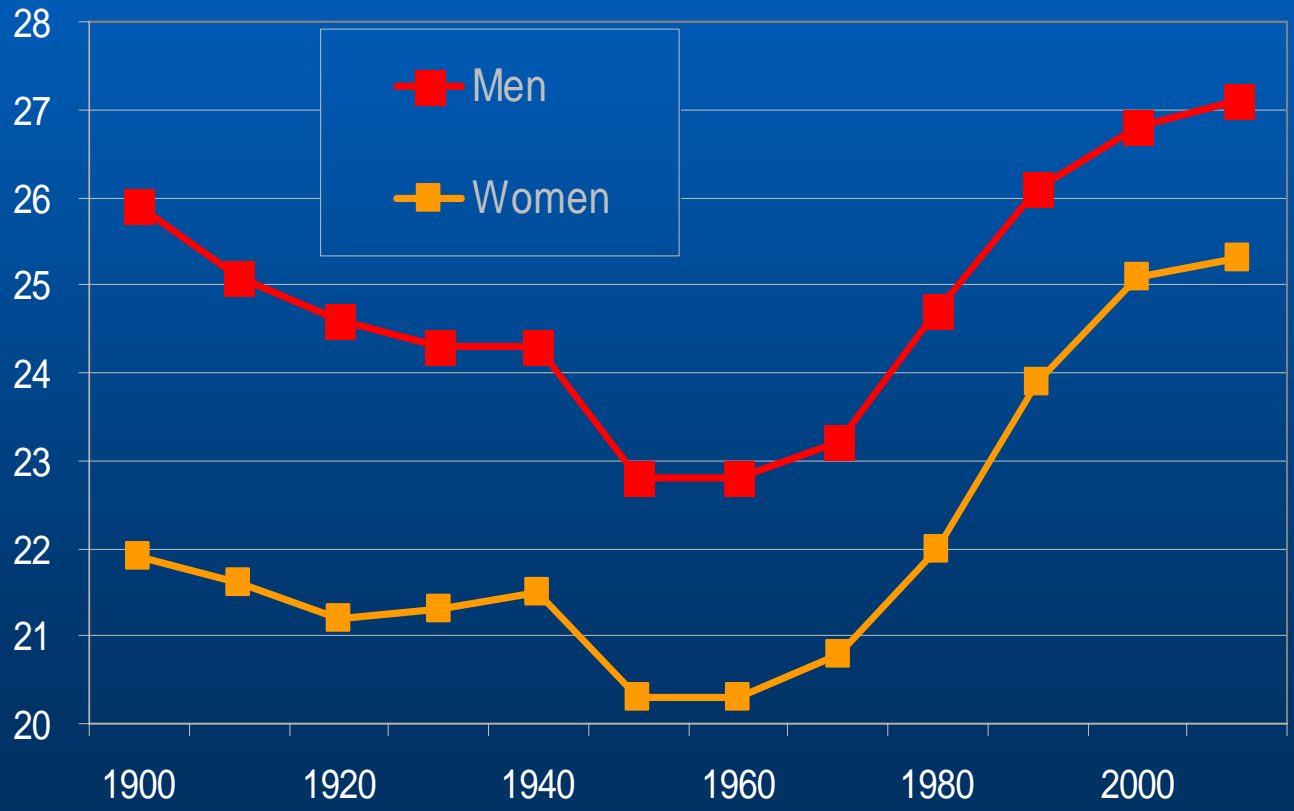




Household formation is also changing: Men and women are delaying marriage...

Median Age at Marriage

Source: U.S. Census Bureau

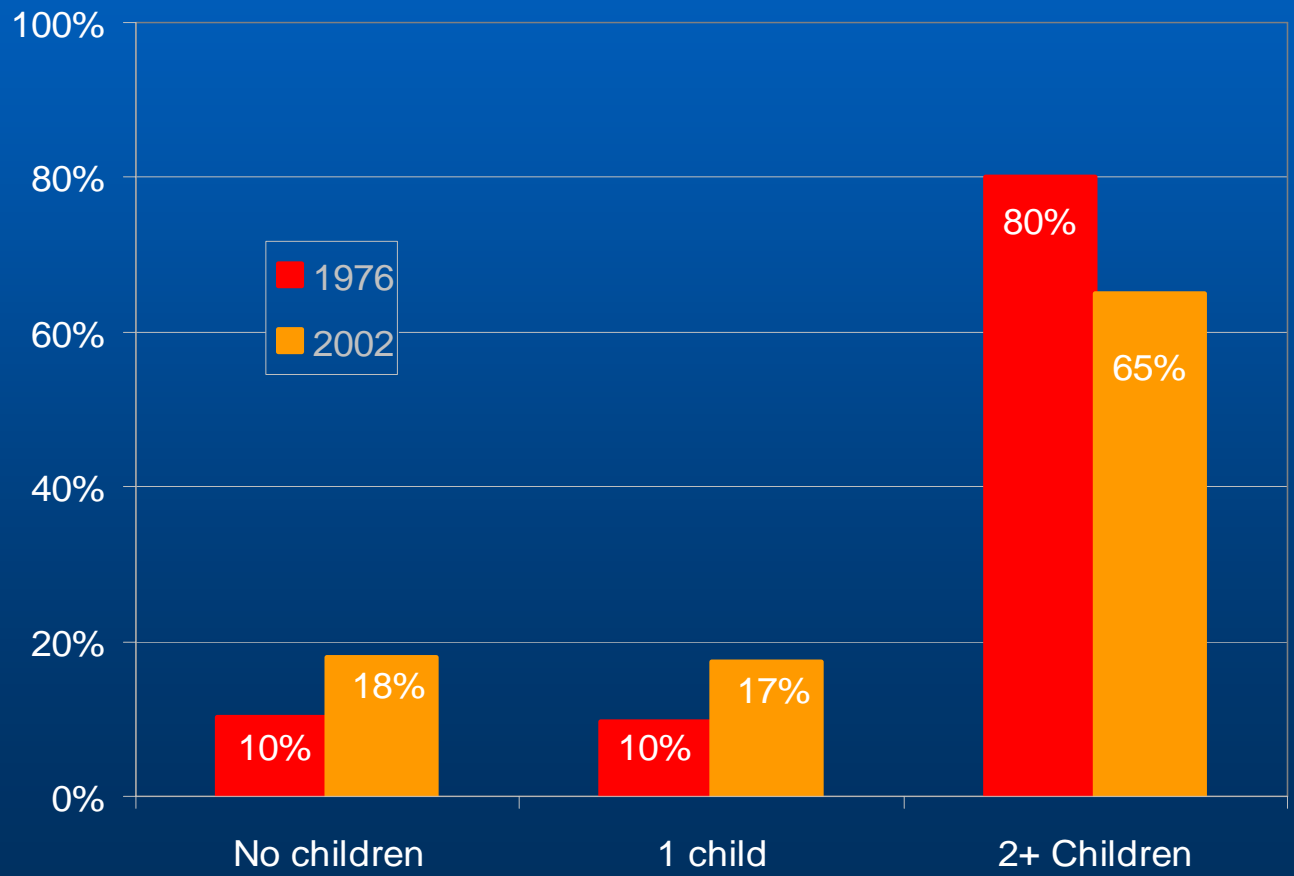




...and families are having fewer children

Births Ever to Women Age 40-44

Source: U.S. Census Bureau





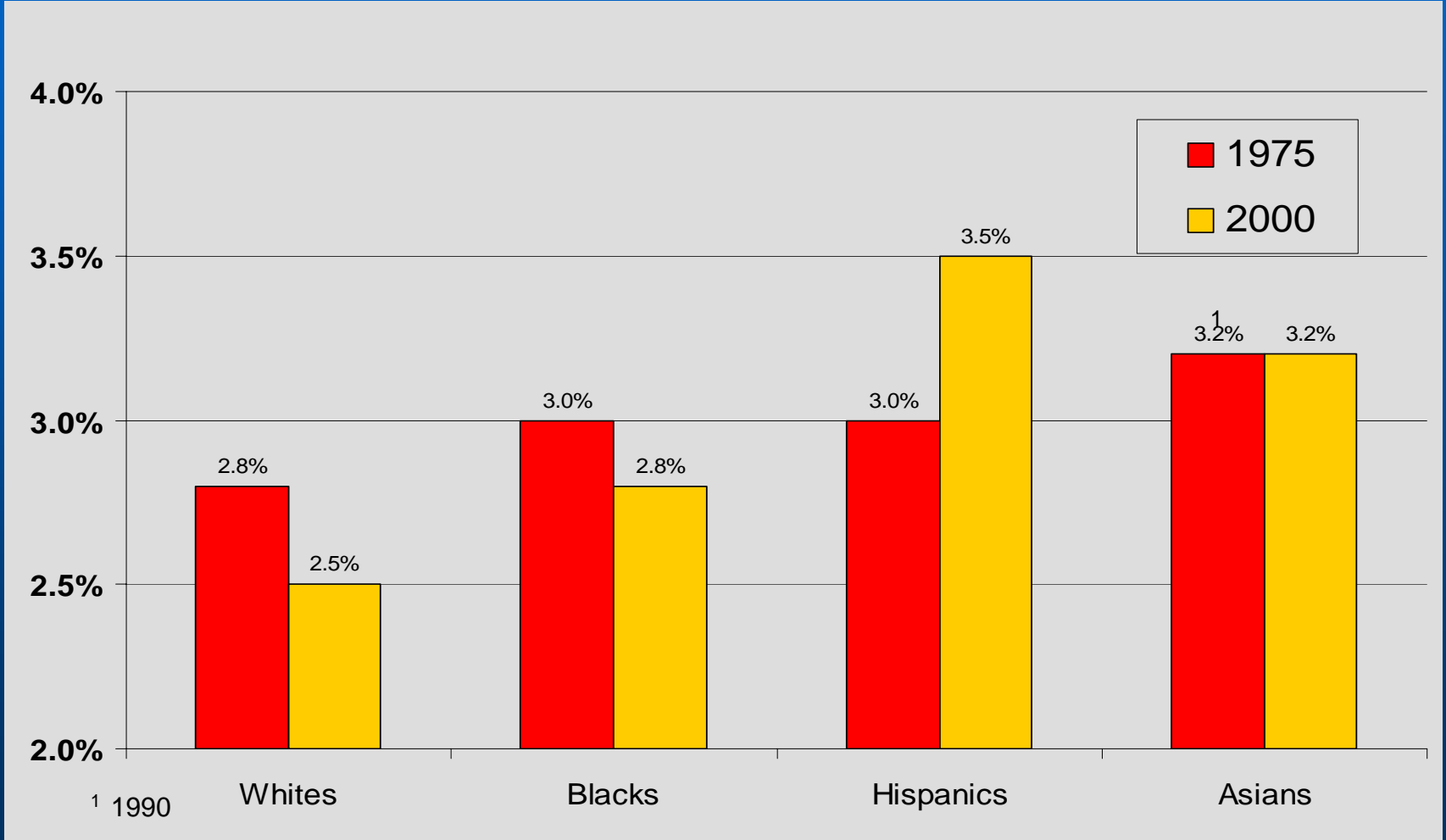
The combination of these trends means that household size is shrinking

	1990	2000	2020
Families w/ children	36.6%	32.8%	28.2%
Families w/o children	33.7%	35.3%	39.7%
Married couples w/ child.	26.9%	23.5%	20.3%
Married couples w/o child.	28.4%	28.1%	32.1%
Singles	25.0%	25.8%	27.3%

Source: U.S. Census Bureau



But household size is not shrinking for Hispanics and Asians



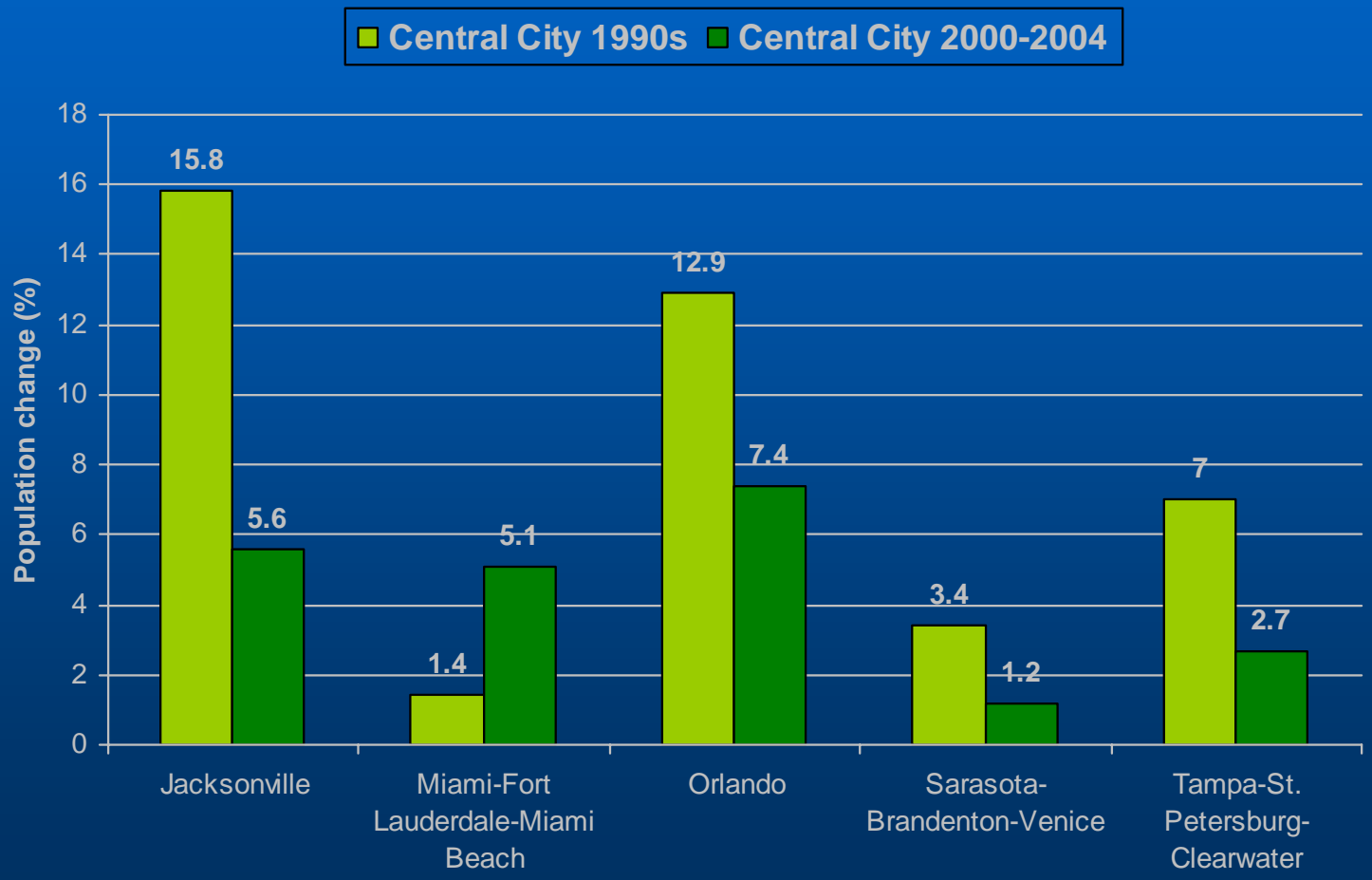
Source: U.S. Census Bureau



In Florida, similar population growth trends can be found; the largest cities in the state grew in the 1990s and continued to do so in the last four years

Population Change in Florida, 1990-2000 and 2000-2004

Source: William H. Frey, "Metro America in the New Century" (2005)

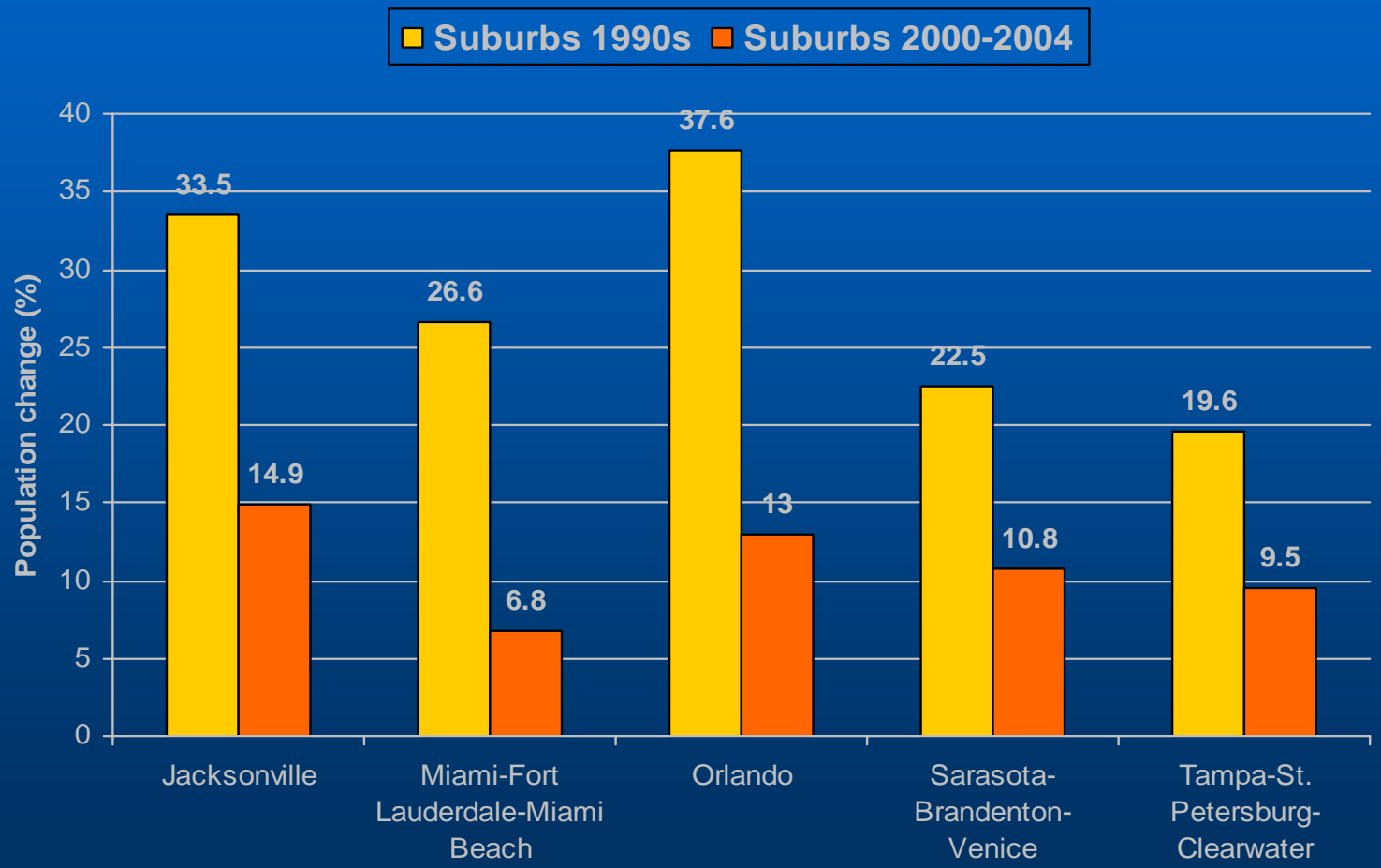




But suburbs grew faster than cities during this period, often at more than three times the rate of cities

Population Change in Florida, 1990-2000 and 2000-2004

Source: William H. Frey, "Metro America in the New Century" (2005)

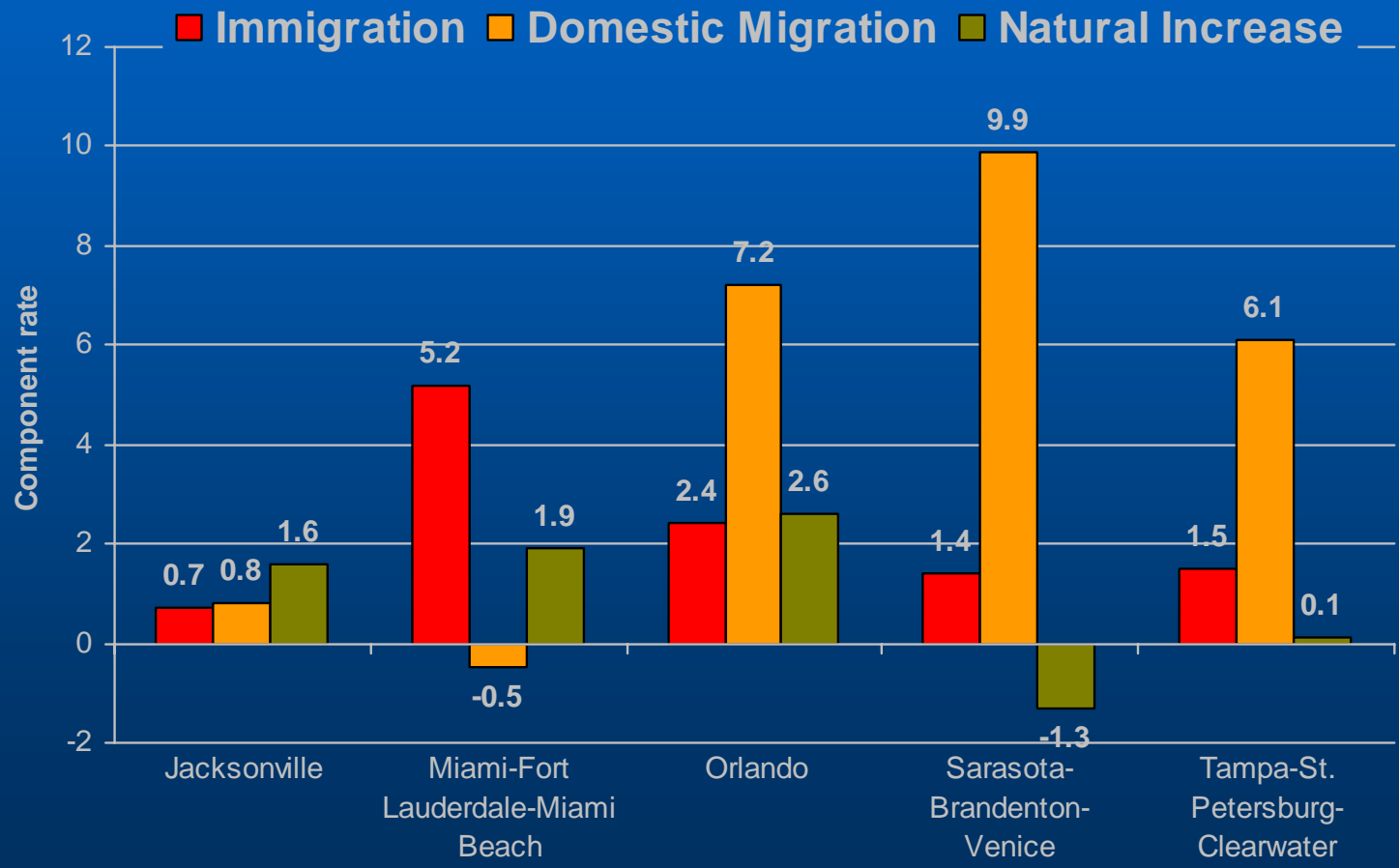




Domestic migration fueled the growth of most Florida's major metropolitan areas between 2000 – 2004; the exception is Miami

Components of Population change 2000-2004

Source: William H. Frey, "Metro America in the New Century" (2005)

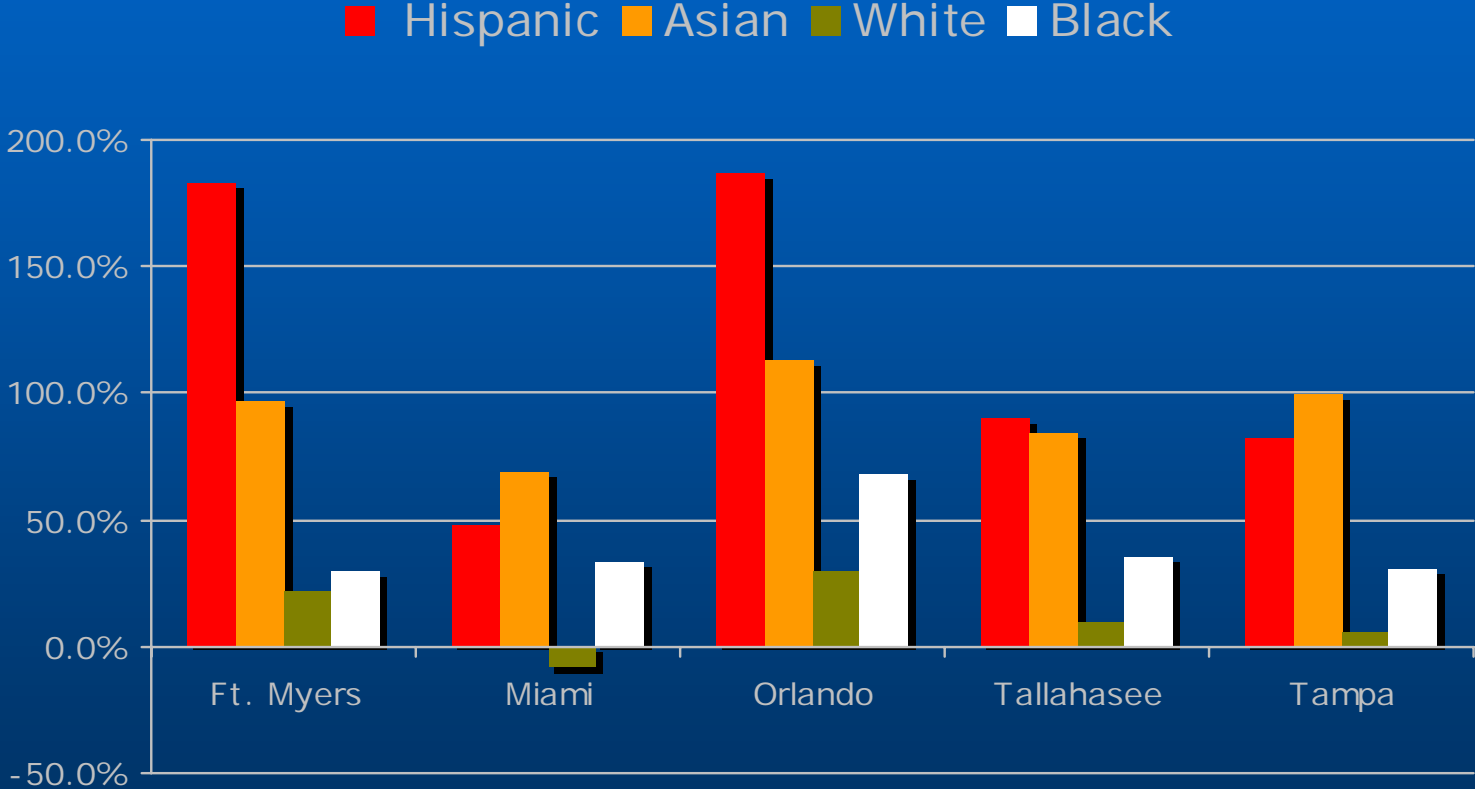




Asians and Hispanics also fueled growth in major Florida metropolitan areas during the 1990s

Percent change in population by race and ethnicity, 1990-2000

Source: U.S. Census Bureau





Further, the shift to a knowledge economy is placing greater reliance on highly-educated and highly-skilled workers people

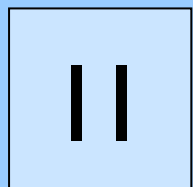
- Ideas, innovation, and creativity now drive the economy
- Success requires large numbers of people with a college education and high skills



The bottom line: these demographic and market changes give cities and suburbs a chance to compete for new residents and their consumption



- Young professionals
- Childless couples
- Baby-boomers
- New immigrants
- Empty nesters
- Elderly individuals
- High end service jobs



Further, greater density may be in order because projected population growth trends demand new ways to accommodate future growth



The opportunity: We can still better capture and accommodate future growth

- By 2030, the nation will need a total of approximately 427 billion square feet of built space to accommodate growth projections.
- By 2030, about half of the buildings in which Americans live, work, and shop will be built after 2000.

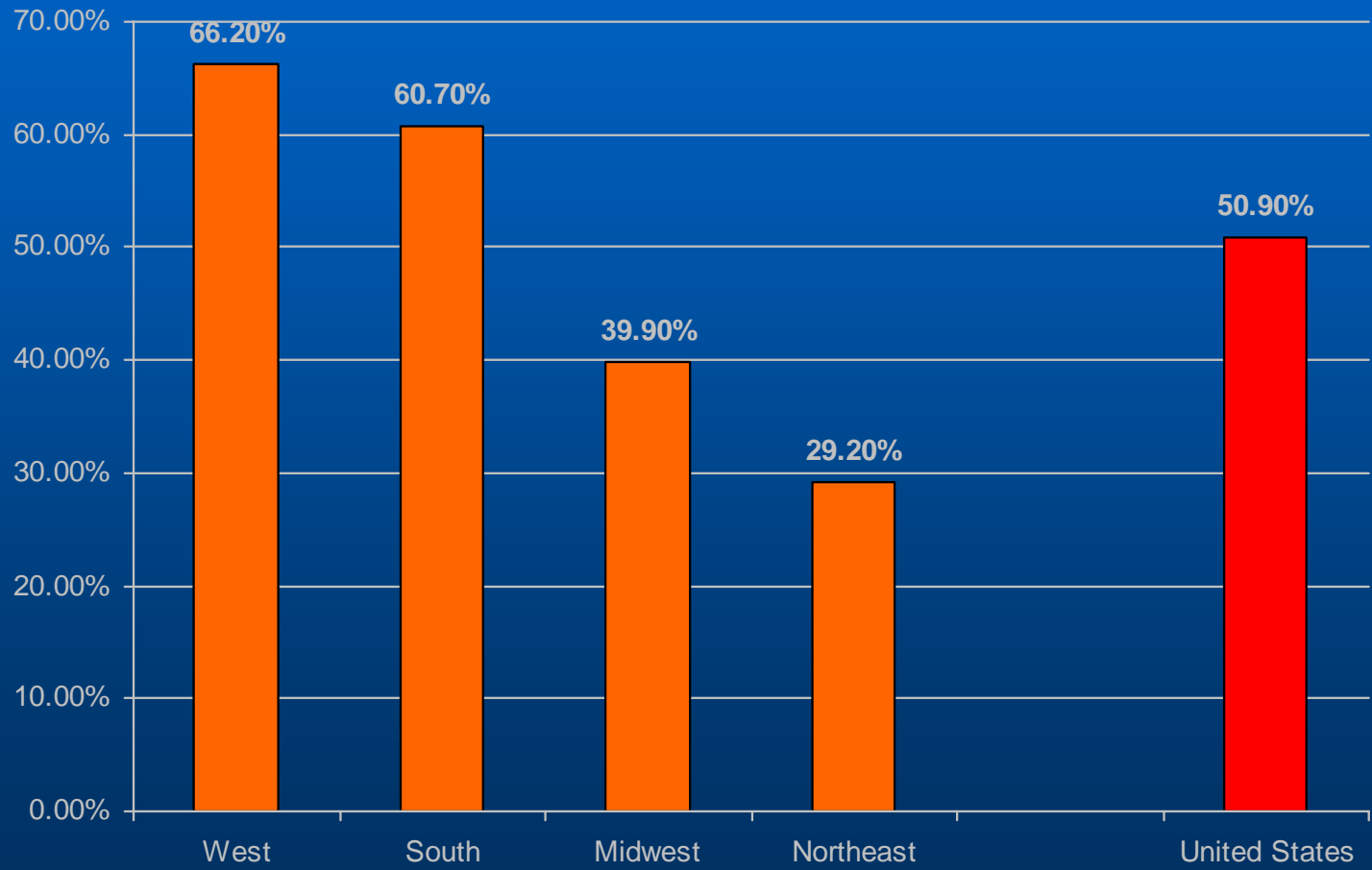
- Source: Arthur C. Nelson, 2005



The West and South will have the highest demand for residential housing between 2000 and 2030

Percent new units built after 2000 (2000-2030)

Source: Nelson, "Toward a New Metropolis: An Opportunity to Rebuild America" (2004)

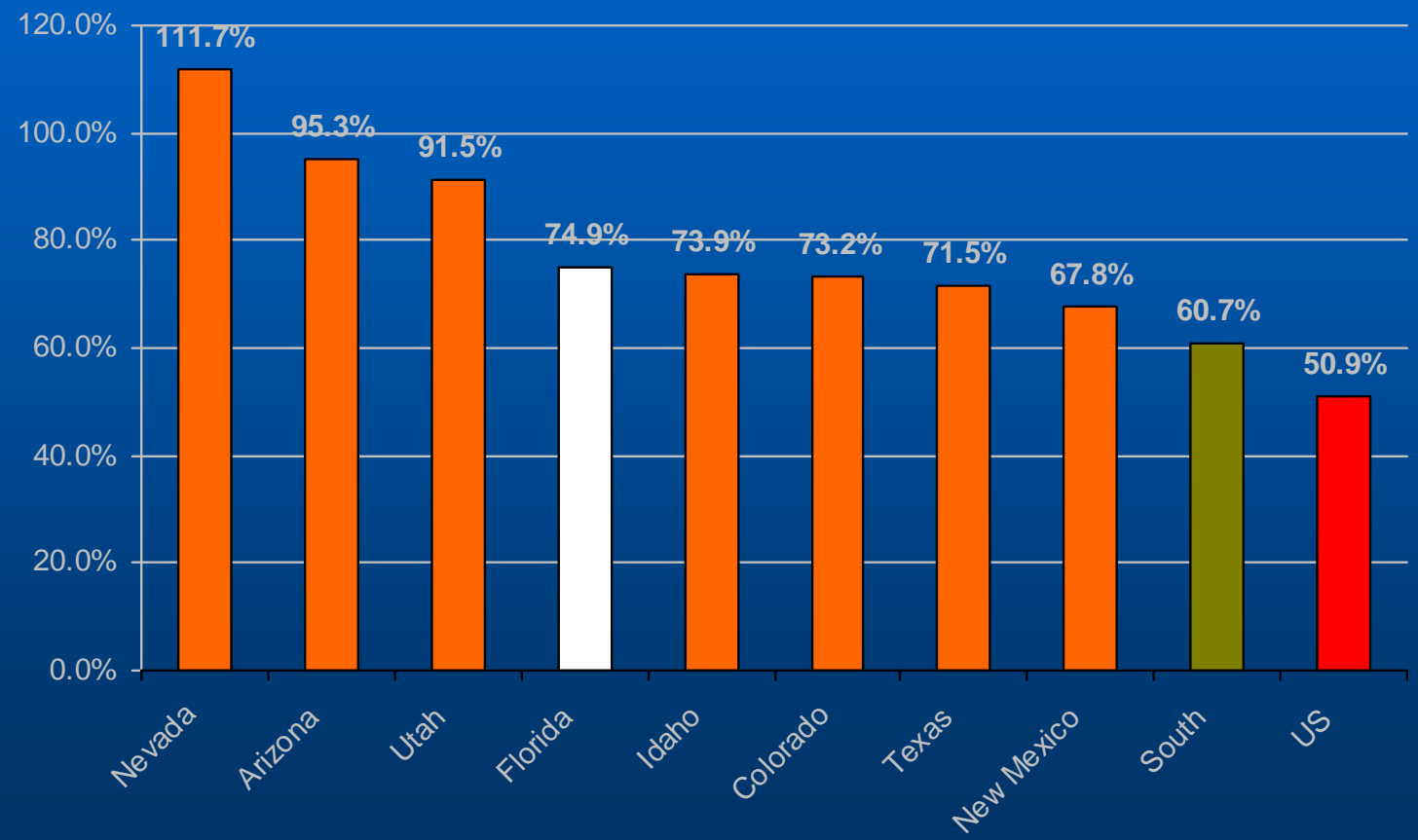




Florida is ranked 4th among the fifty states in experiencing the highest demand for housing in the next 24 years

Percent new units built after 2000 (2000-2030)

Source: Nelson, "Toward a New Metropolis: An Opportunity to Rebuild America" (2004)

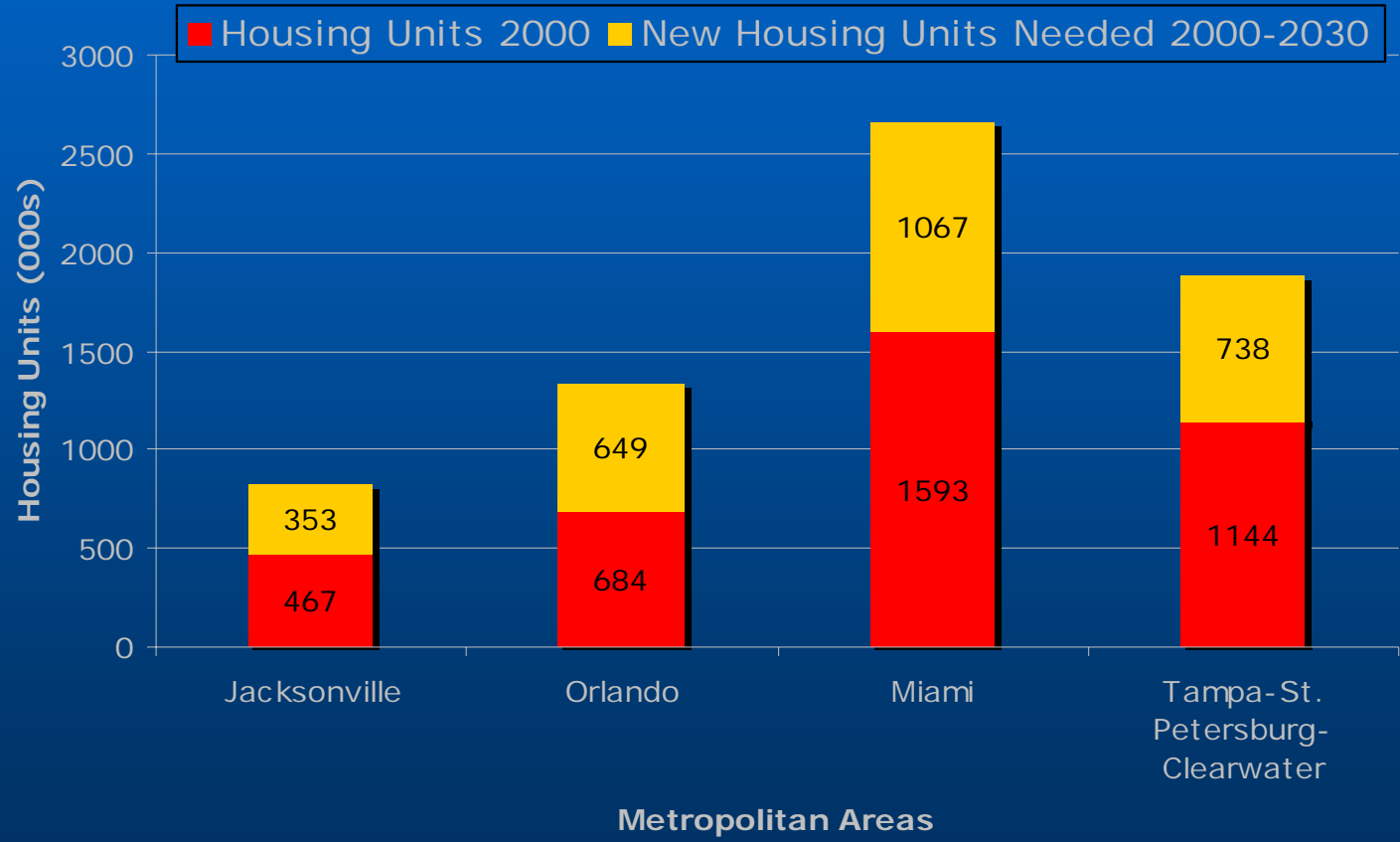




In the next 24 years, Miami will need the highest number of new housing units to accommodate projected growth...

Demand for Housing Units 2000-2030

Source: Nelson, "Toward a New Metropolis: An Opportunity to Rebuild America" (2004)

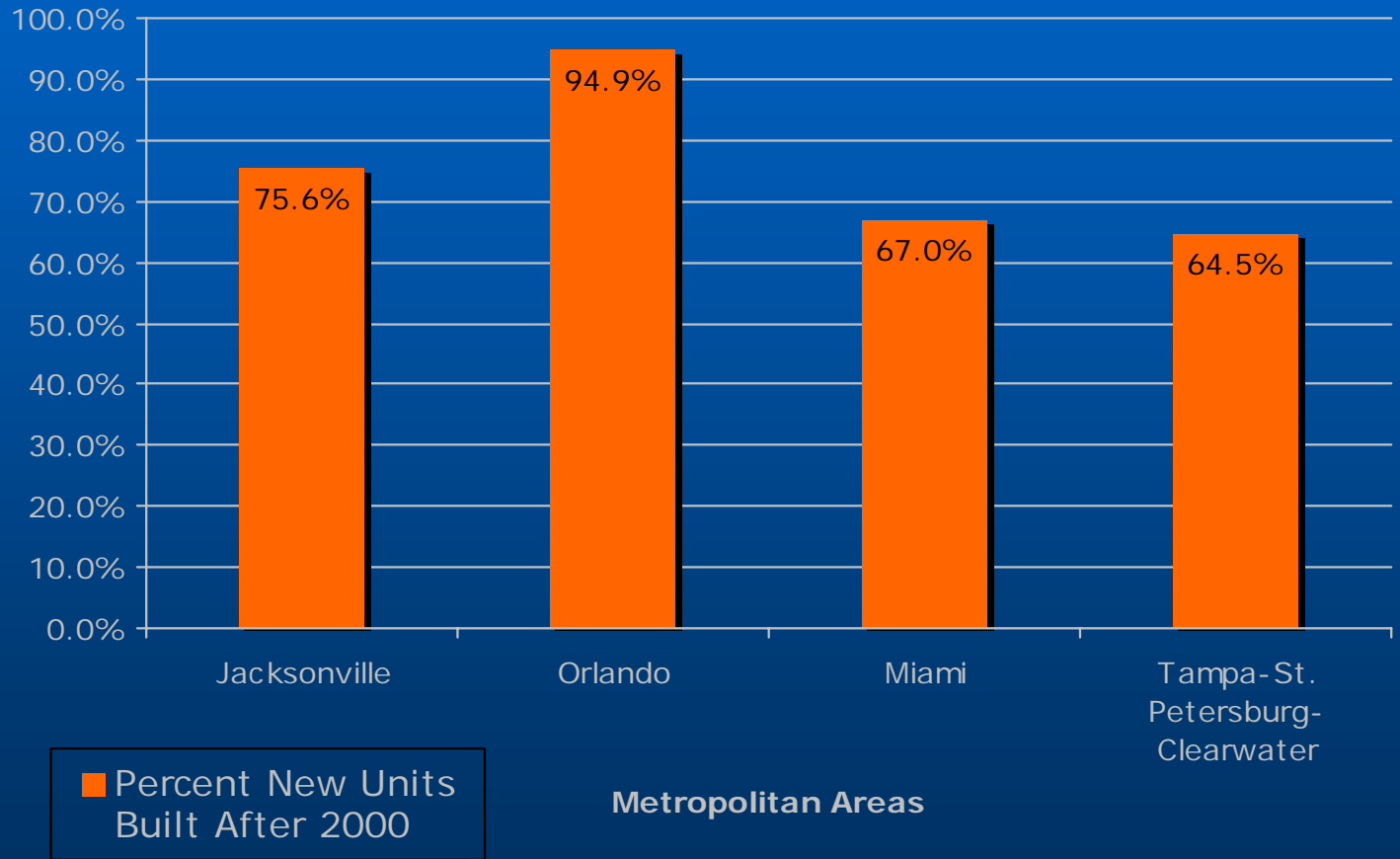


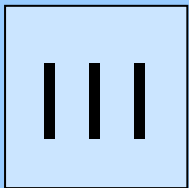


...but Orlando will see their demand for housing nearly double

Demand for Housing Units 2000-2030

Source: Nelson, "Toward a New Metropolis: An Opportunity to Rebuild America" (2004)





U.S. research increasingly finds that density yields economic and fiscal benefits



Economic competitiveness is enhanced by concentrations of firms and people



Higher labor productivity



Enhanced innovation



Concentration of employment contributes to productivity



Average labor productivity increases with more employment density

- Doubling employment density increases average productivity by around six percent
- Workers in the ten states with the lowest employment densities produced 25% less annual output value than the ten states with the highest employment densities

Ciccone and Hall (1996)



Concentration of employment enhances innovation



Higher employment density has been linked to increased innovation

- External economies are generated by the interactions among educated and experienced people

Jacobs (1969)

- For every doubling of employment density, the number of patents per capita increase, on average, by 20 to 30 percent

Carlino (2001)

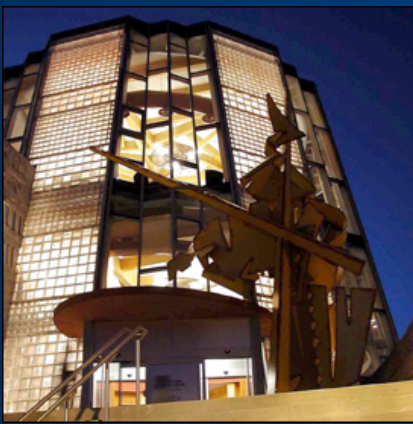


Moreover, places with high value amenities and quality growth yield additional benefits



Attracting more knowledge-workers

Enhancing the quality of place



Producing public revenues for investing in more amenities



Educated workers are drawn to places with:

- Vibrant and distinctive downtowns
- Plentiful amenities
- A “thick” job market
- A positive, tolerant culture



Concentration of human capital contributes to productivity



More educated workers enhance productivity

- Each additional year of education for a worker in a metro area leads to a 2.8 percent increase in productivity

Rauch (1993)



Concentration of human capital fuels income growth



Cities and metros with highly skilled workers have higher income growth

- The most highly educated metro areas have per capita incomes about 20 percent higher than average while the least educated metros have per capita incomes about 12 percent below average

Gottlieb and Fogarty (2003)

- A one percentage point increase in the college-educated population of a metro area raises everyone else's average wages by .6 to 1.2 percent

Moretti (2004)



Quality growth and high value amenities produce economic benefits

Growth management metros were more likely to see improvements in metropolitan level personal income than other metros

Nelson and Peterman (2000)

“Accessible” cities with efficient transportation systems had higher productivity than more dispersed places (47 metro areas)

Cervero, 2000



Furthermore, 50 years of research confirm that sprawl has costs

Low density development increases cost of infrastructure:

- Utilities
- Roads
- Streets

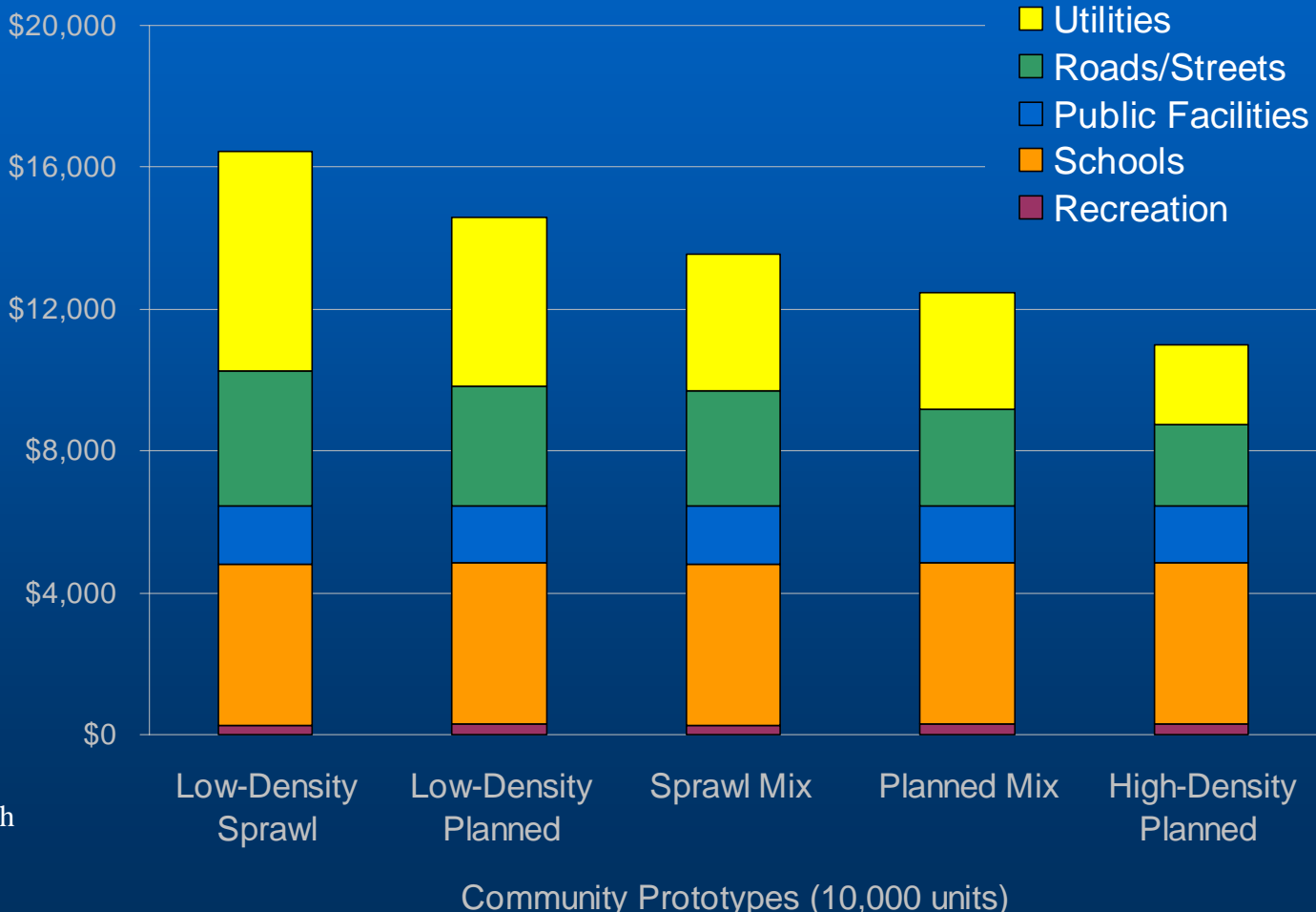
Low density development increases the costs of key services:

- Police
- Fire
- Emergency medical



Planned and high-density developments experience greater capital costs savings, esp. from road and water infrastructure

Estimated cost savings by community prototype



Source: Real Estate Research Corporation (1974)



A more recent 1989 study in Florida showed that the costs for providing infrastructure per dwelling unit is lowest and most efficient for more compact developments

Efficiency Rank	Study Area	Urban Form	Cost
1	Downtown	Compact	\$9,252
2	Southpoint	Contiguous	\$9,767
3	Countryside	Contiguous	\$12,693
4	Cantonment	Scattered	\$15,316
5	Tampa Palms	Satellite	\$15,447
6	University	Linear	\$16,260
7	Kendall	Linear	\$16,514
8	Wellington	Scattered	\$23,960
Average			\$14,901

A 2001 study in Kentucky showed that the cost to a family of four to provide services for every 1,000 new residents is less in a more compact county than a decentralized one.

Dollar costs of new services (including police, fire, highway, schools, and solid waste) per 1,000 new residents for a family of 4 in Kentucky

	Development Pattern	Cost
Central city counties		
Fayette	(more concentrated)	(\$1.08)
Jefferson	(more spread out)	\$37.55
Suburban counties		
Shelby	(more concentrated)	\$88.27
Pendelton	(more spread out)	\$1,222.39
Counties with small towns		
Warren	(more concentrated)	\$53.89
Pulaski	(more spread out)	\$239.93
Outer ring and rural		
Garrard	(more concentrated)	\$454.51
McCracken	(more spread out)	\$618.90

Source: Bollinger, Berger, and Thompson (2001)



In sum, the fiscal savings for greater density and clustering are estimated to be substantial

→ Nationwide, more compact development could save governments 11% on capital outlays over the long term

→ More compact development could save governments almost 4% on service provision

Source: Muro & Puentes (2004)



Industry composition, not just residential development, matters to density



Academic evidence show that certain industries are more compact or sprawl-inducing than others

- **Innovative businesses are urban:** Innovative businesses and activities are most likely to be urban and located in cities
- **Routine means rural:** Activities that are more routine in nature are more likely to be suburban or rural
- **Industries with educated workers are centralized:** Industries that hire college educated workers are often more centralized, located in inner-ring; industries with majority high school graduates are less urban
- **Manufacturing and some retail are land consuming:** Warehousing and distribution, and some service industries -- like big box retail -- are suburban and exurban and land consuming



IV

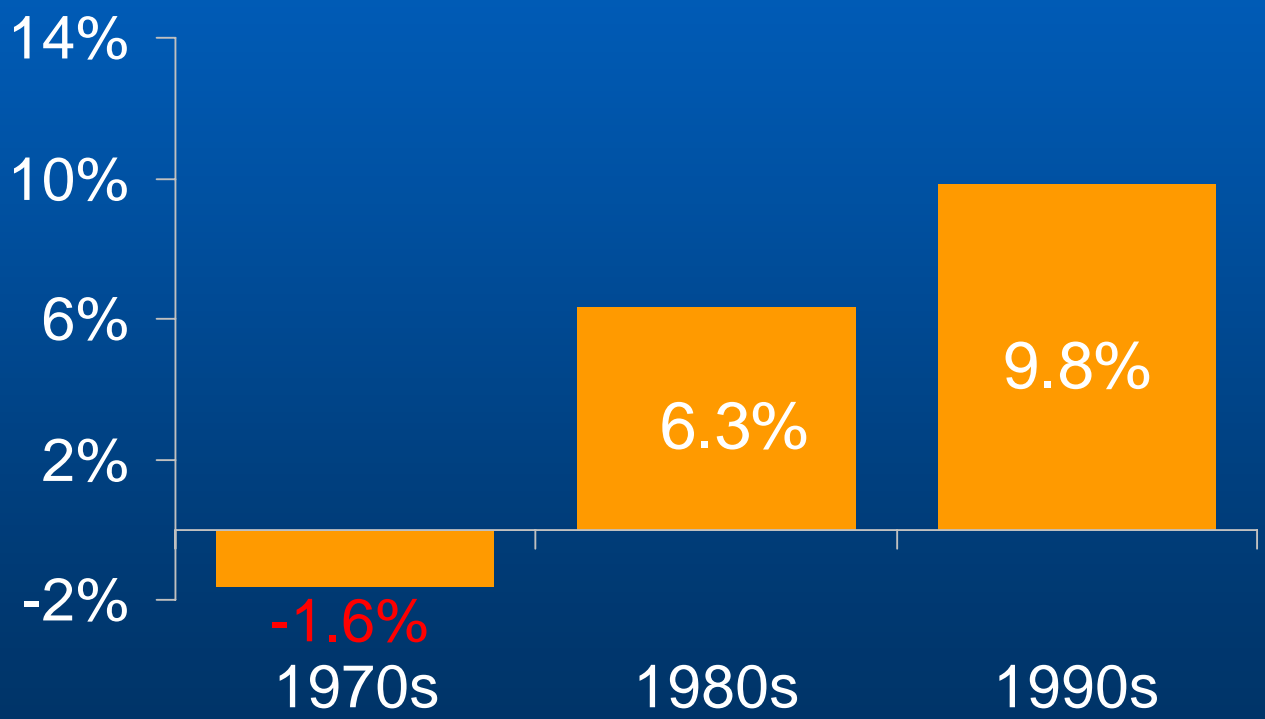
Given the opportunity and benefits, the progress of creating more dense development is mixed



The good news: demographic and market changes have led to a population surge in cities

Population Growth in 50 largest cities, 1970-2000

Source: U.S. Census Bureau

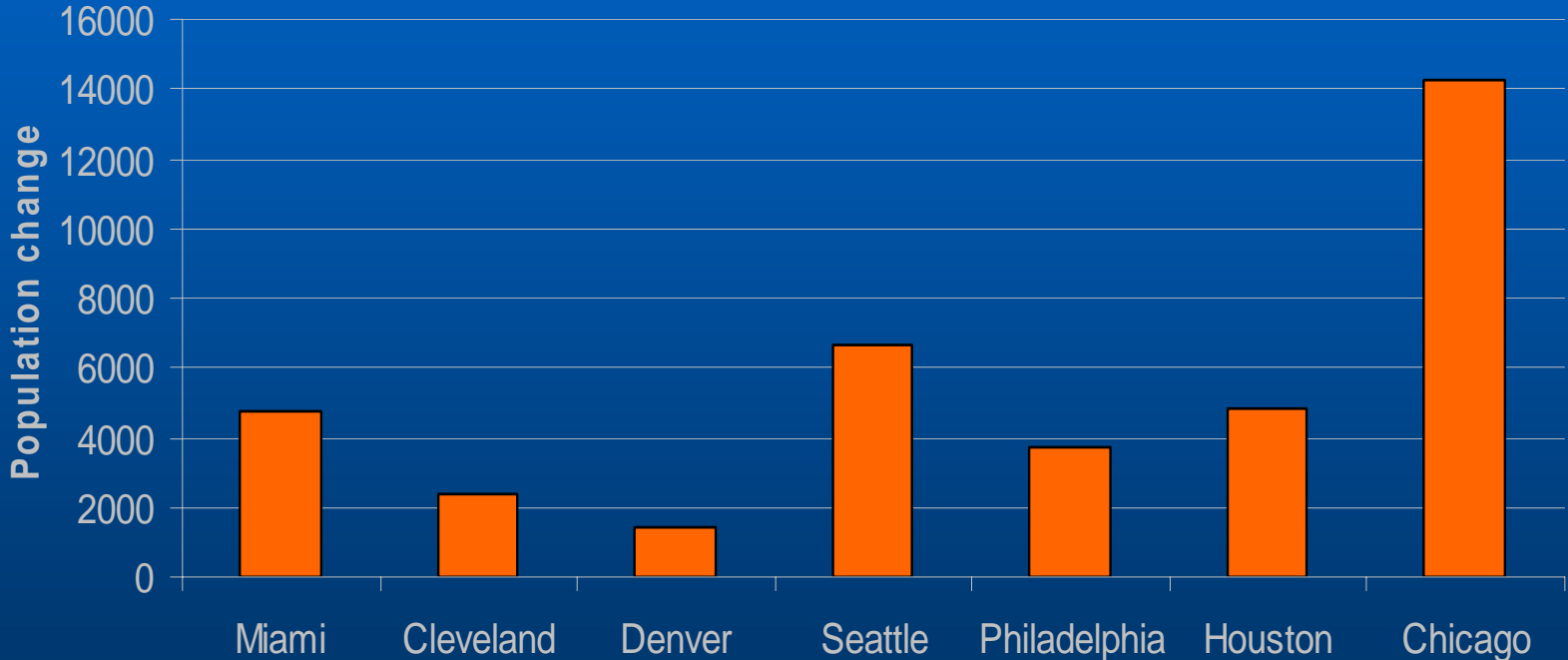




These changes and choices have also contributed to the downtown revitalization in cities

Absolute change in population, 1990-2000

Source: U.S. Census Bureau

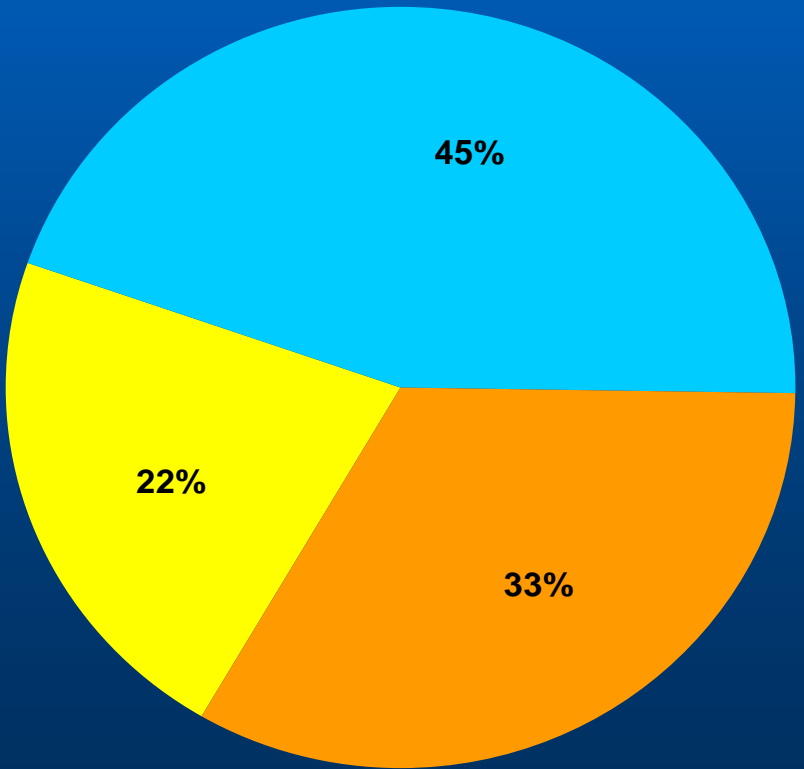




However, jobs and people continue to shift to the suburbs. Today, more than 30% of jobs in the top 100 metros are now located 10 miles from downtowns.

Share of metropolitan employment, 100 largest metropolitan areas, 1996

■ 3-mile share ■ 10-mile share ■ Outside 10-mile share



In most of the largest office markets, office space is located in low-density, edgeless locations

Metropolitan Area	% Office Space within Primary Downtown (CDB)	% Office Space within Secondary Downtowns	% Office Space within Edge Cities	% Office Space within Edgless Locations
Core Dominated				
Chicago	53.9%	-	19.5%	26.6%
New York	56.7%	7.2%	6.2%	29.9%
Balanced				
Boston	37.4%	4.6%	18.8%	39.2%
Washington	28.6%	12.5%	27.1%	31.8%
San Francisco	33.9%	8.8%	13.9%	43.4%
Dispersed				
Dallas	20.5%	4.5%	40.3%	34.6%
Houston	23.0%	-	37.9%	39.1%
Atlanta	23.6%	9.9%	25.3%	41.2%
Edgeless				
Philadelphia	34.2%	3.2%	8.9%	53.6%
Miami	13.1%	4.5%	16.6%	65.8%
Average	37.7%	6.0%	19.8%	36.5%

Source: Black's Guide (New York Data comes from Cushman & Wakefield and the Real Estate Board of New York)



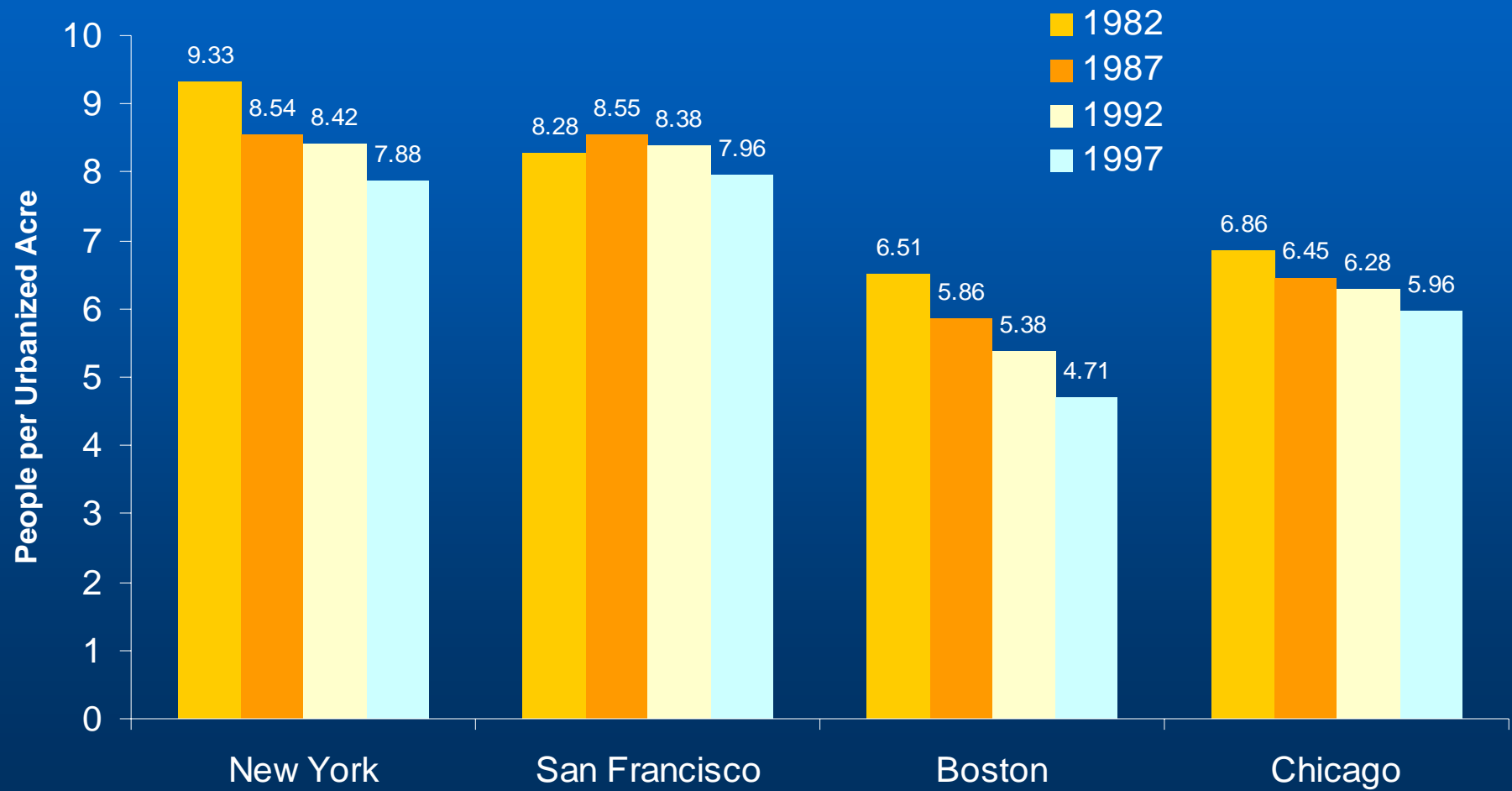
Due to rapid suburbanization, density has dropped across all regions in the U.S. between 1982 and 1997

	Density		
	1982	1997	Percent Change
Northeast	5.87	4.51	-23.1%
South	3.68	2.82	-23.4%
Midwest	4.19	3.39	-19.0%
West	5.46	4.85	-11.2%
United States	4.46	3.55	-20.5%

Source: Fulton and others, "Who Sprawls Most? How Growth Patterns Differ Across the U.S."



Densities declined consistently over 15 years in hot markets



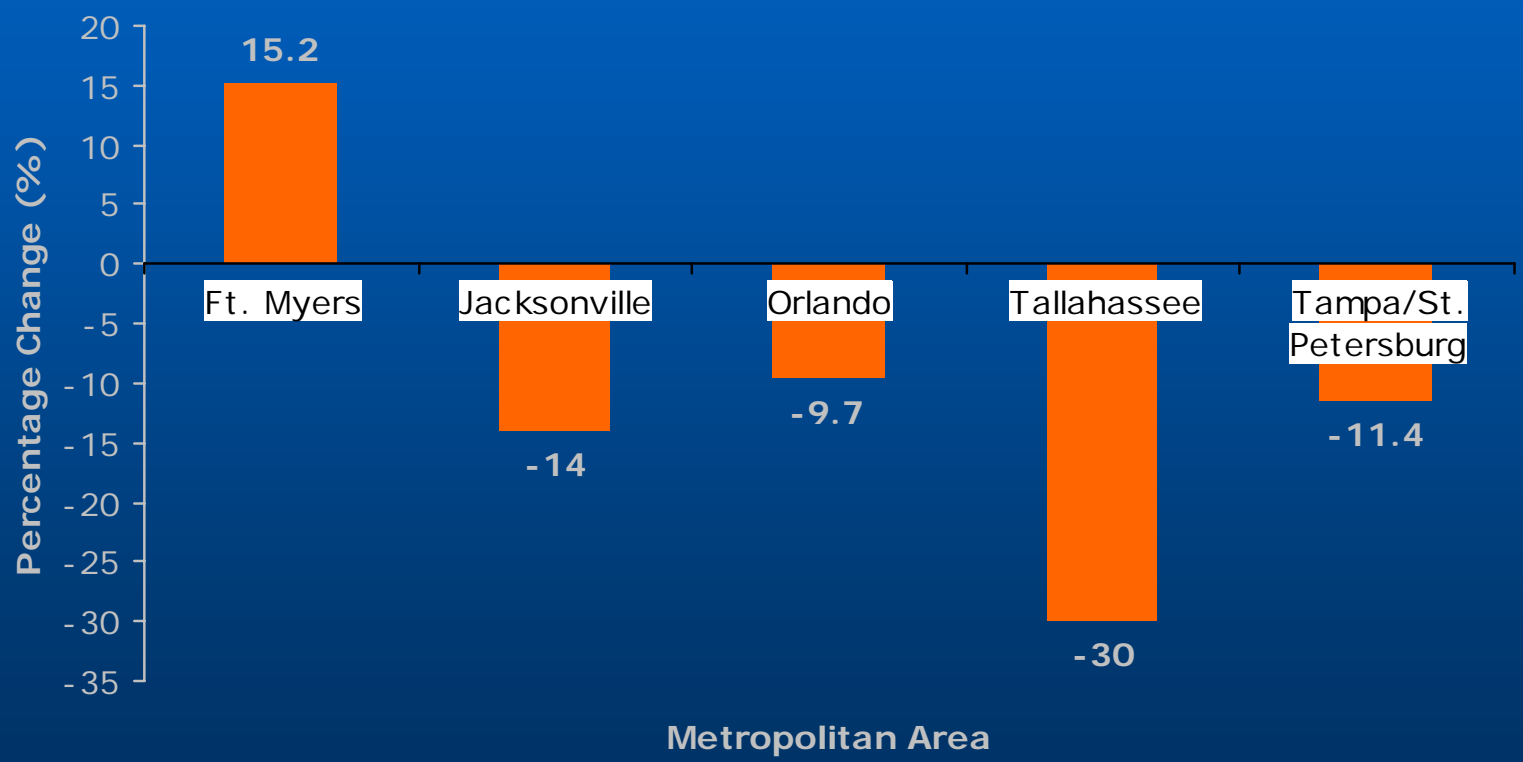
Source: Fulton and others, "Who Sprawls Most? How Growth Patterns Differ Across the U.S."



Densities also declined in Florida's major metropolitan areas during the same period, the exception is Ft. Myers

Change in Density, 1985-1997

Source: Fulton and others, "Who Sprawls Most? How Growth Patterns Differ Across the U.S (2001)





Further, cities are not capturing the bulk of favored household types

	Central City	Suburbs
All Households	33%	67%
All Households w/o Children	29%	71%
** Married couples w/o children	26%	74%
** Married couples w/ children	26%	74%
All Singles	40%	60%
** Non-elderly singles	43%	56%

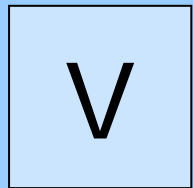
Source: U.S. Census Bureau, 2000
* For the 102 largest metro areas
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And cities are not winning the bulk of key age groups

	Central City	Suburbs
Professional Singles (non family, age 25-44)	44.4%	55.6%
Empty Nester Couples (family, age 45-64)	27.3%	72.7%

Source: U.S. Census Bureau 2000
* For the 102 largest metro areas



Implications

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ANNOUNCEMENT

Urban Center Becomes Metropolitan Program

In a major promotion, the Center on Urban and Metropolitan Policy this month became the Brookings Metropolitan Policy Program—and the first new Brookings department established since 1948. The new status reflects the rising importance of metropolitan issues to the domestic and global challenges Brookings seeks to address.

▶ read an open letter from Brookings President Strobe Talbott

METROVIEW

Deficits by Design Plague Metro
by Robert Puentes
The Washington Times
June 21, 2004

[News Index](#)

METROPOLITAN GROWTH

Mechanisms for Market-Based Land Use Control

Using case studies and a national survey, this paper examines transfers of development rights (TDRs) and other market-based land preservation techniques like mitigation banking and density transfer fees.

IMMIGRATION

Washington Goes Polyglot

Metro Washington's "limited English proficient" (LEP) population

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