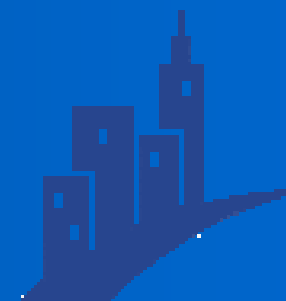




The Brookings Institution

Metropolitan Policy Program
Amy Liu, Deputy Director

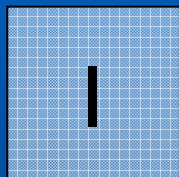


The Benefits of High Density Development

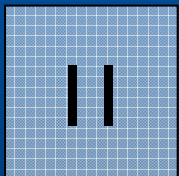
Delaware Valley Smart Growth Alliance 2nd Annual Forum
November 17, 2005



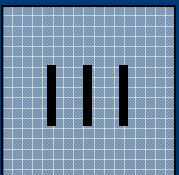
Economic and Fiscal Benefits of Density



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



Academic research demonstrates that dense, compact development yields both economic and fiscal benefits



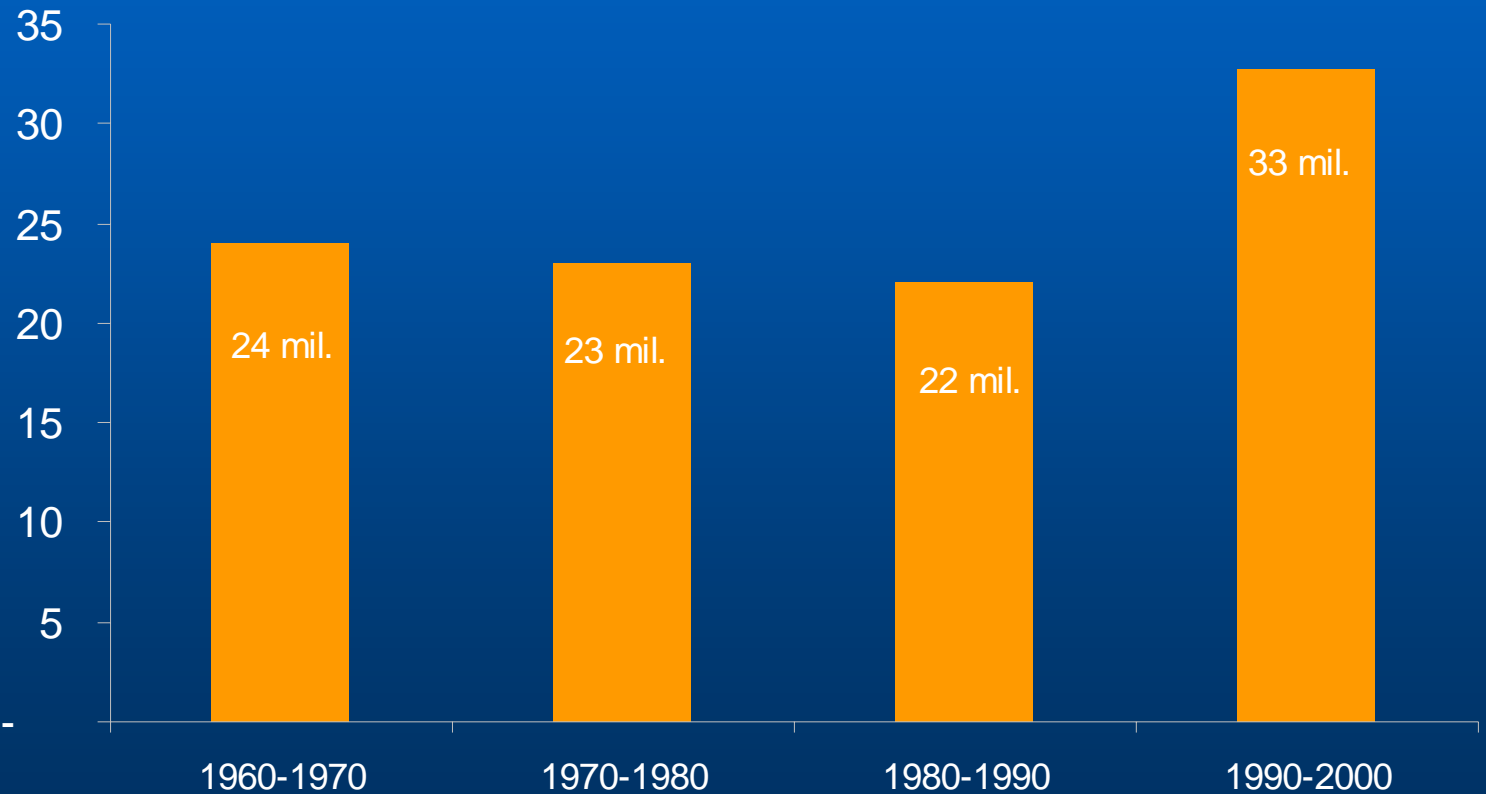
However, we can do better and must to accommodate future growth



U.S. population growth in the 1990s was much stronger than in previous decades

Change in
Millions of
persons

Source:
U.S. Census Bureau



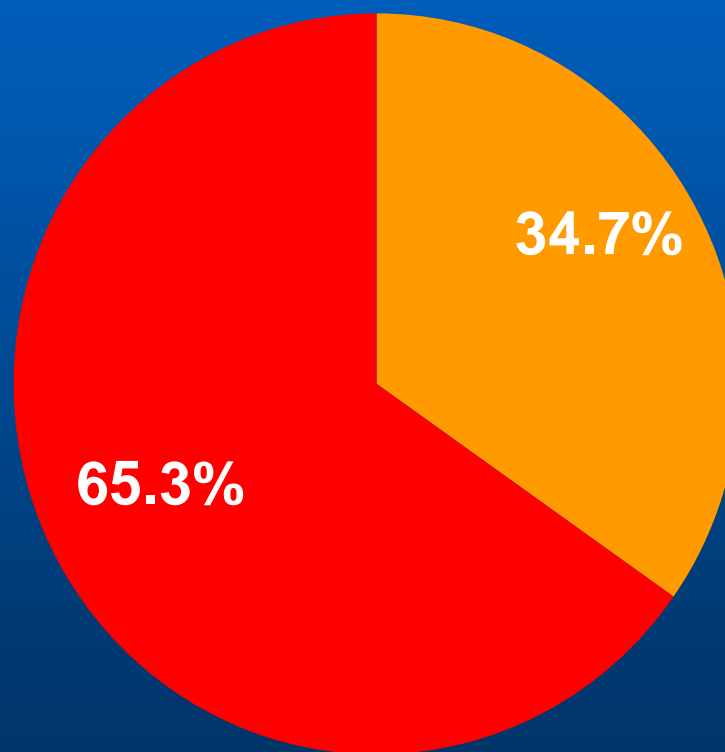


Immigration explains a large portion of this population growth

Components
of population
change, 1990-
2000

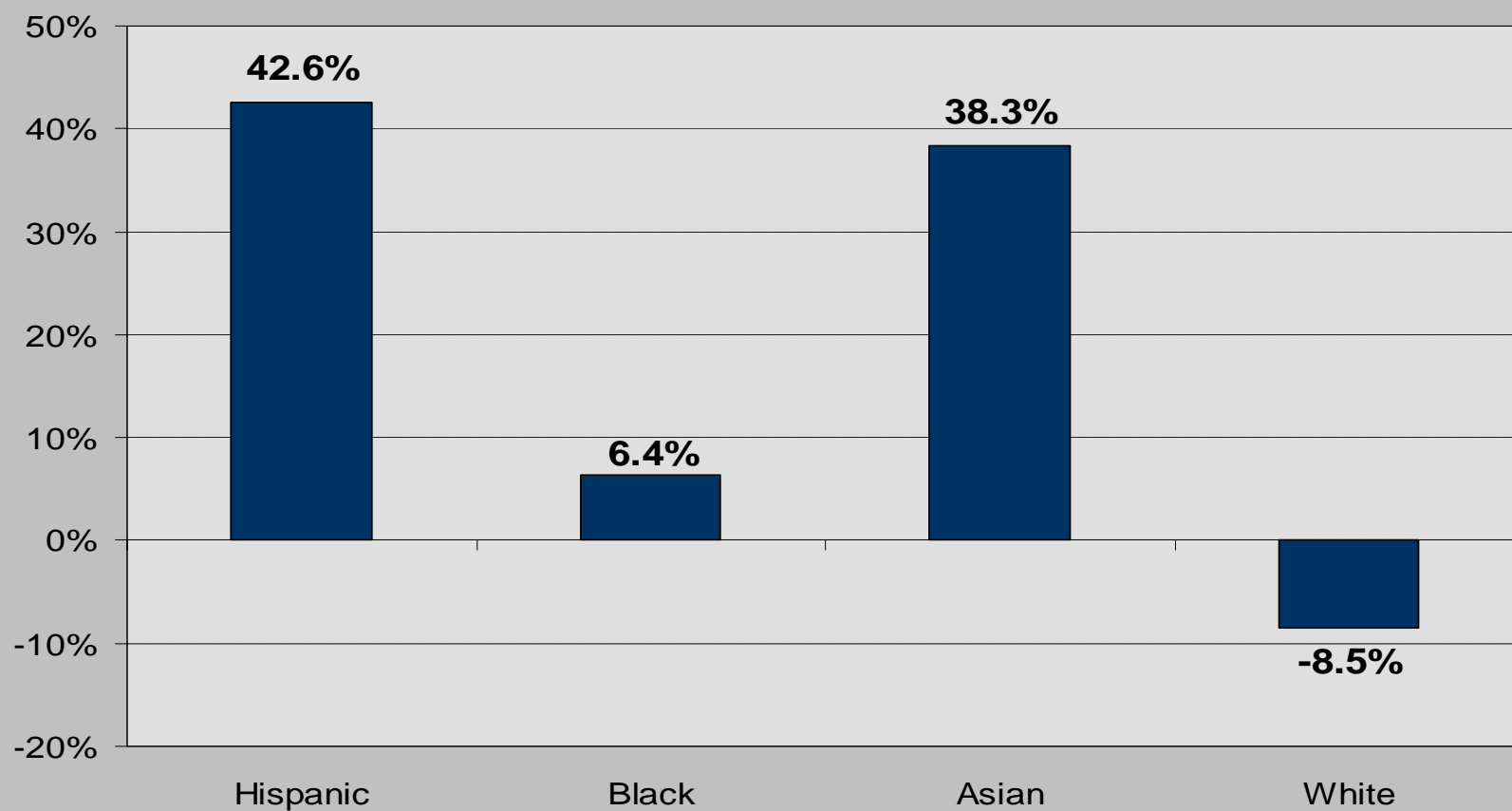
Source:
U.S. Census Bureau

- Net Immigration
- Natural Increase





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

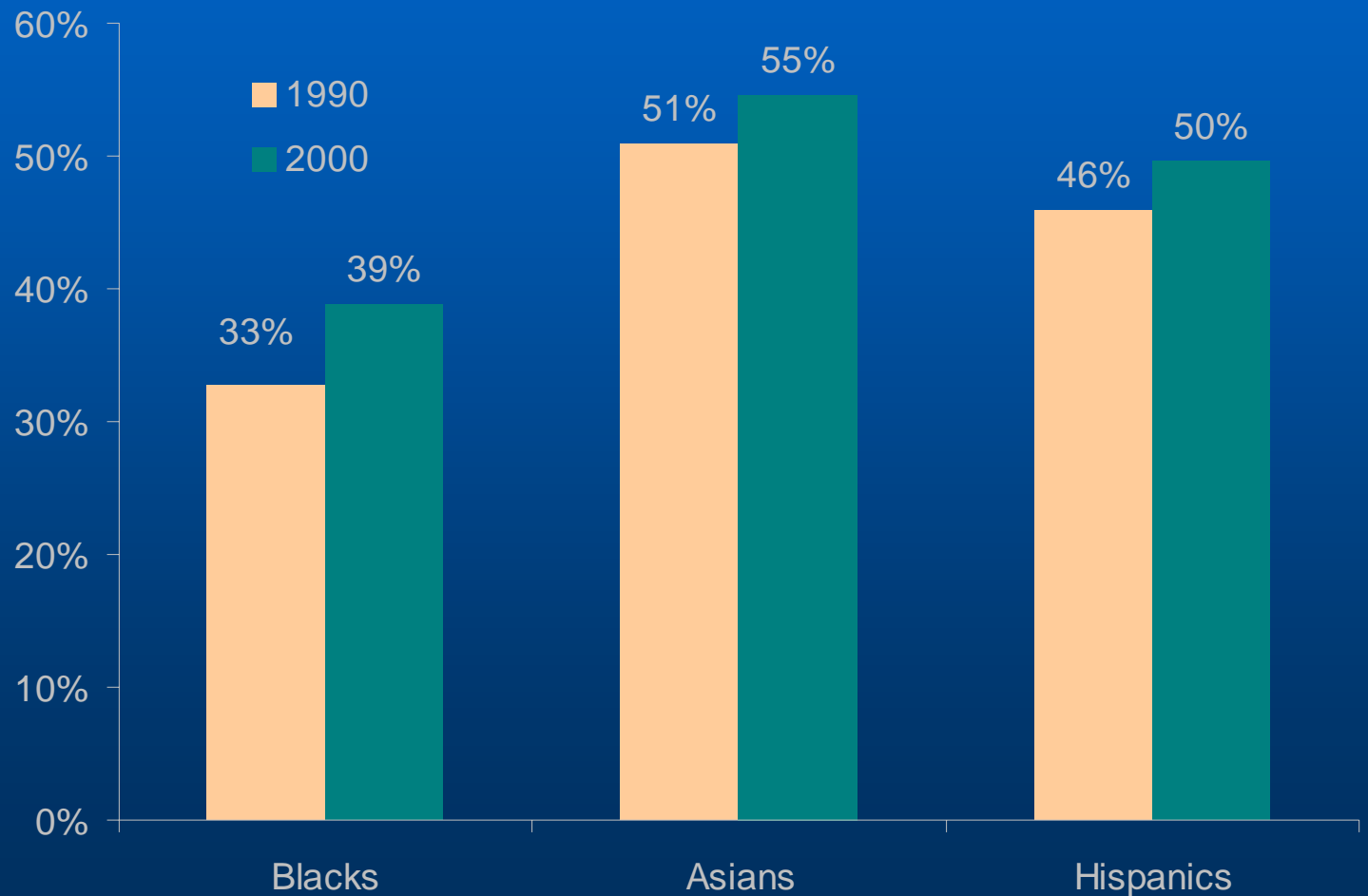




But suburbs also diversified; the share of each racial/ethnic group living in the suburbs increased substantially

Share of population by race and ethnicity, 1990-2000

Source:
U.S. Census Bureau





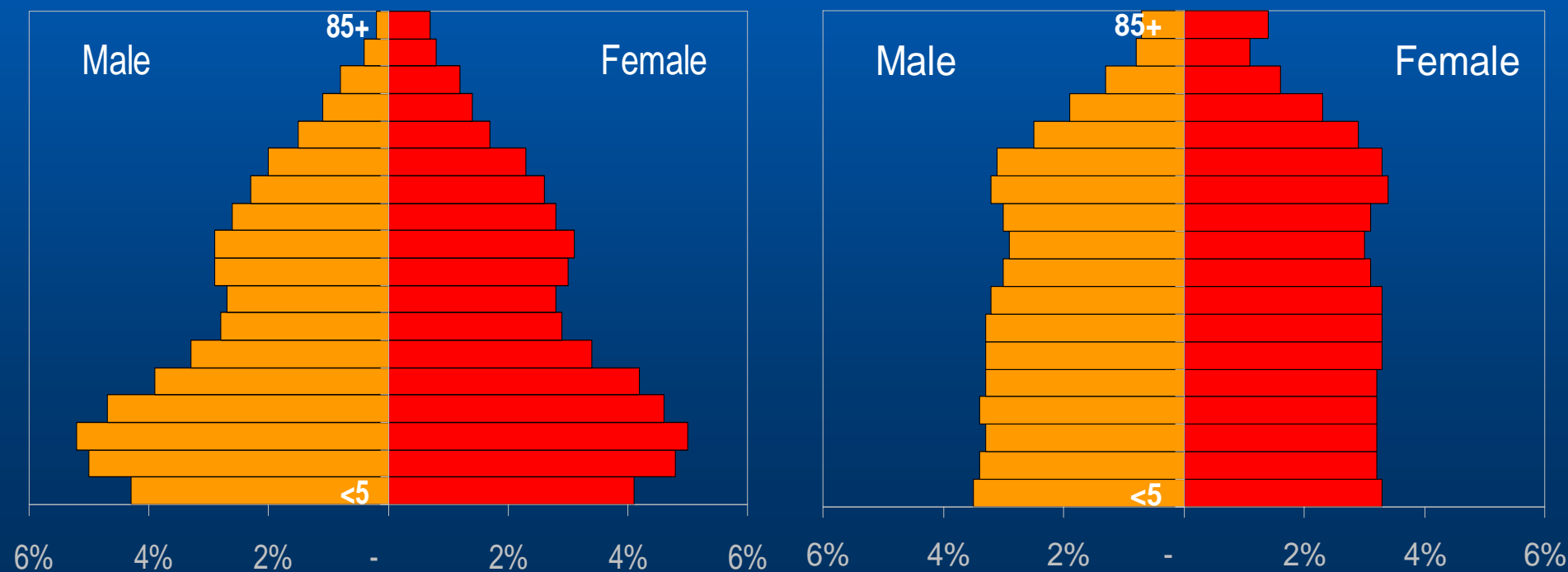
As America grows it is also aging

Share of Population in Age Groups

Source:
U.S. Census Bureau

1970

2020

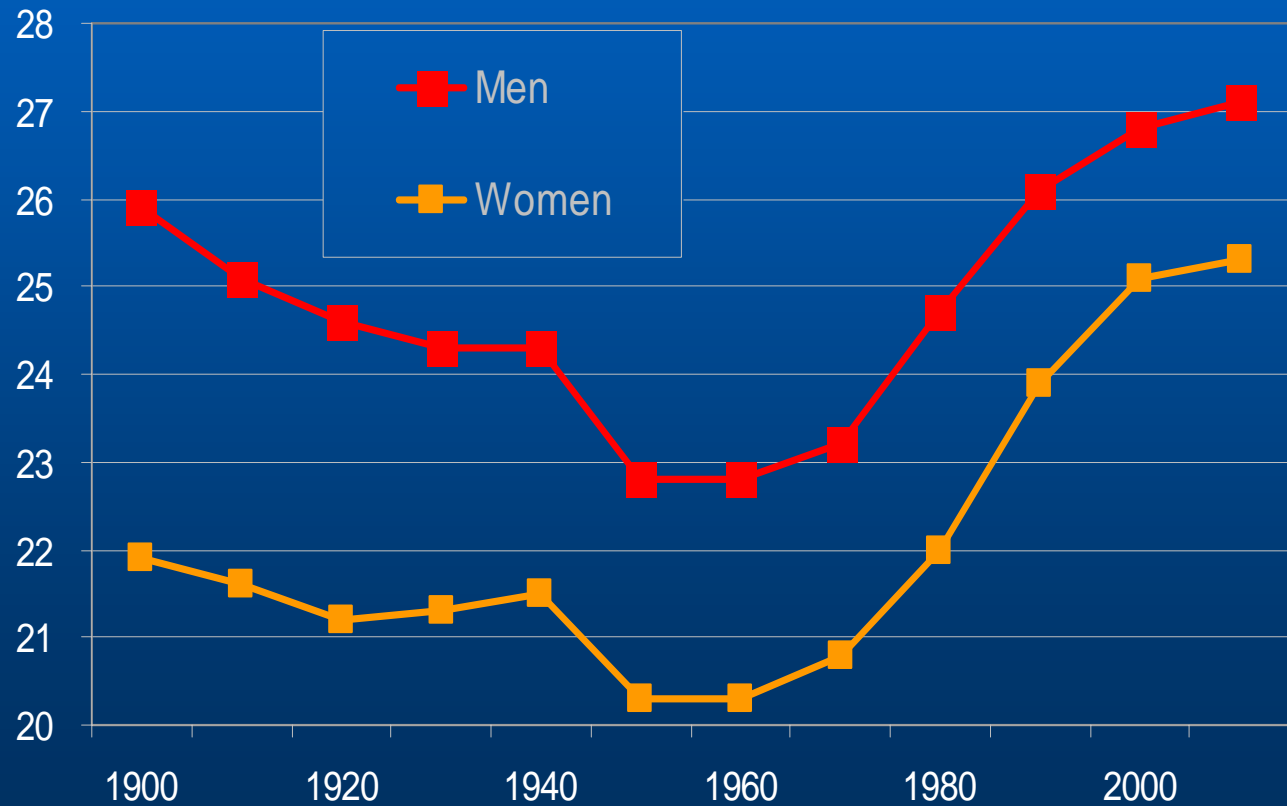




Household formation is also changing: Men and women are delaying marriage...

Median Age at Marriage

Source: U.S. Census Bureau

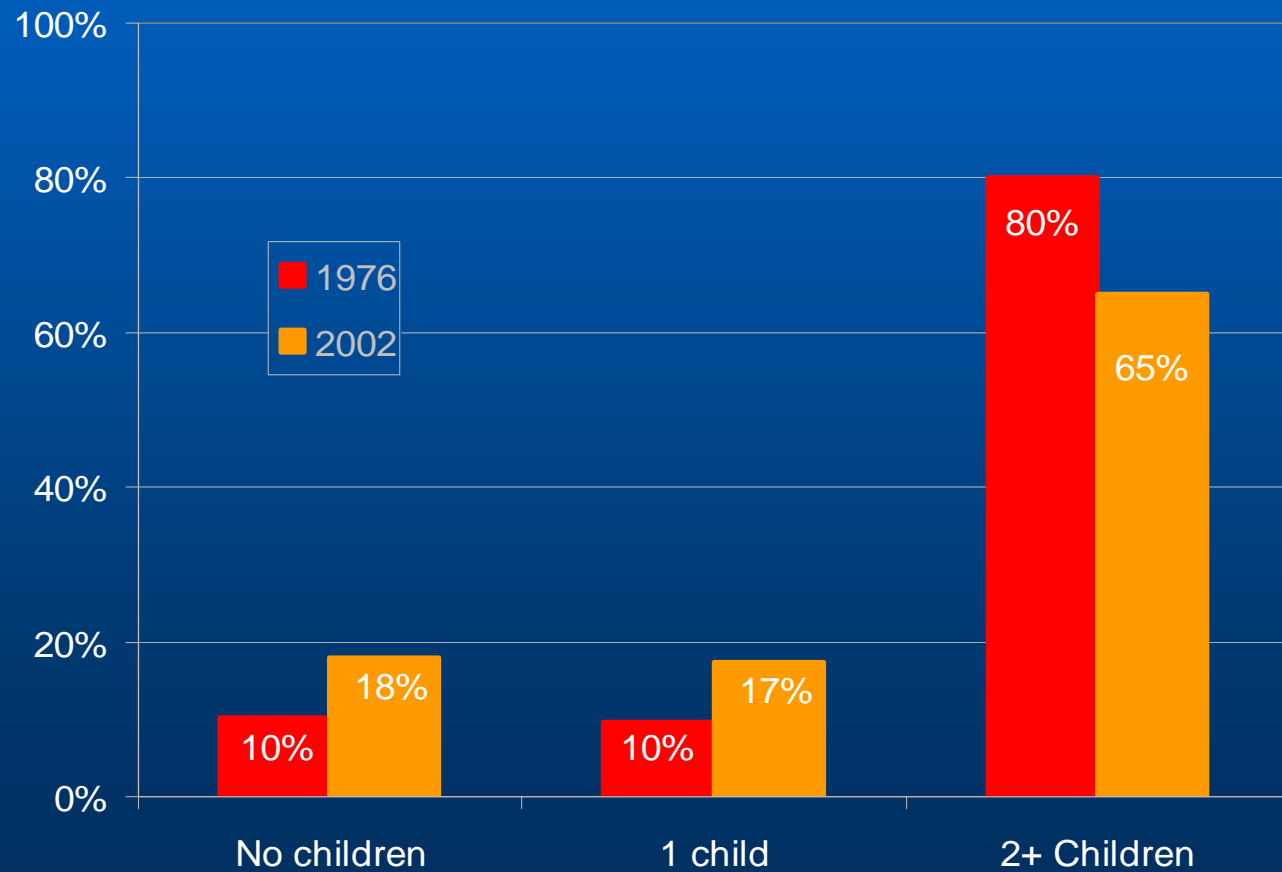




...and families are having fewer children

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% |



The shift to a knowledge economy placing greater reliance on highly-educated and highly-skilled workers people

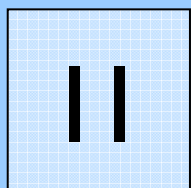
- Ideas, innovation, and creativity now drive the economy
- Success requires large numbers of people with a college education and high skills



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



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)

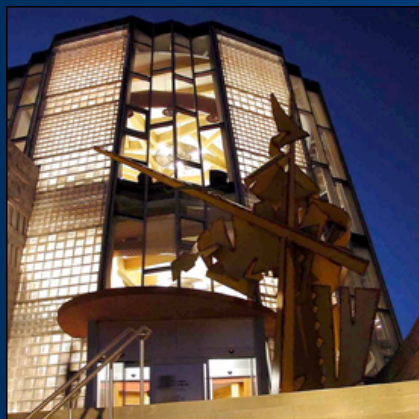


Moreover, places with high value amenities and quality growth yield additional benefits



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

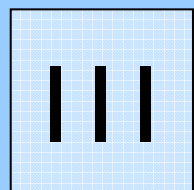


Industry composition, not just residential development, matters to density



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



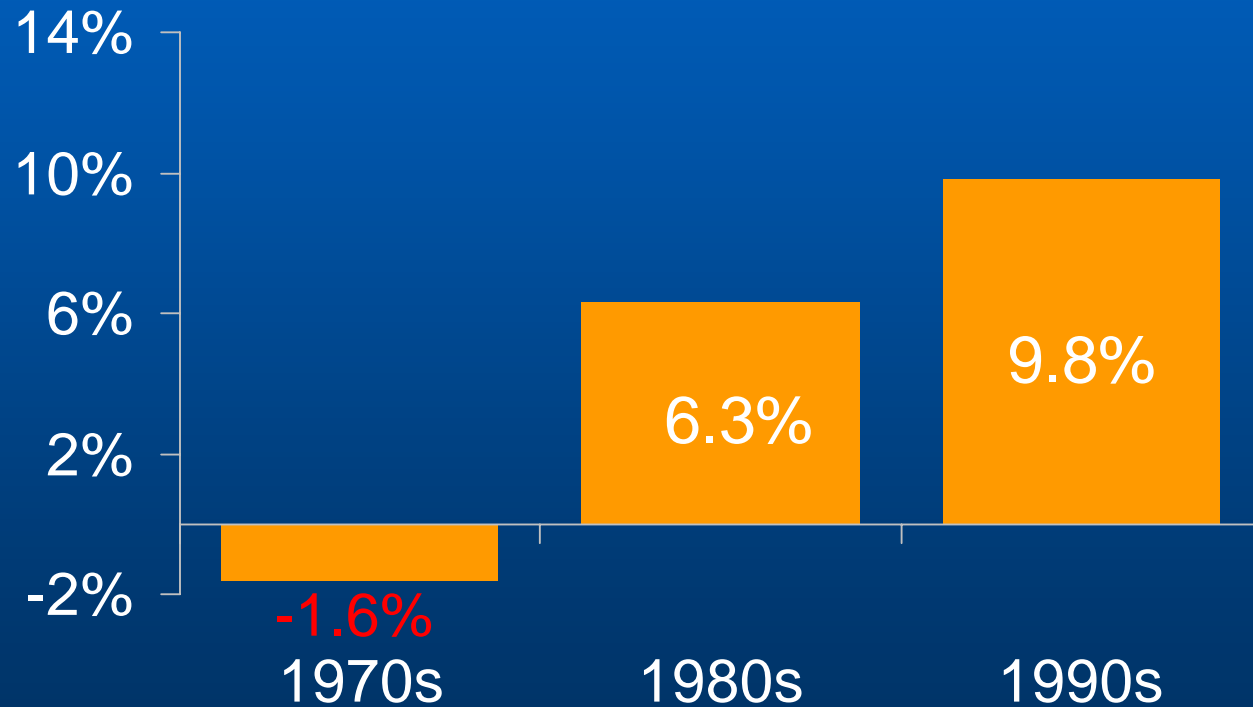
Progress on dense development is mixed but there is still opportunities to plan and build better



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

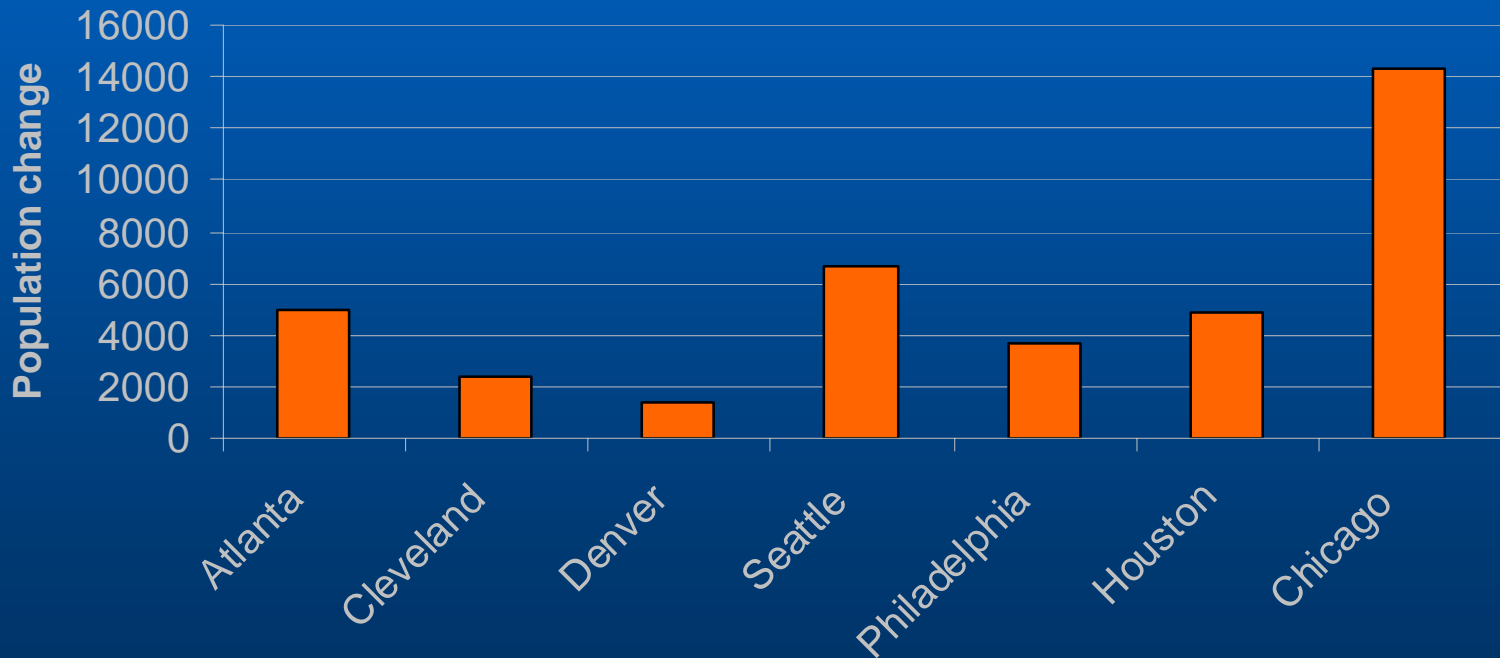




These changes and choices have also contributed to the downtown revitalization in cities

Absolute change in population, 1990-2000

Source: U.S. Census Bureau





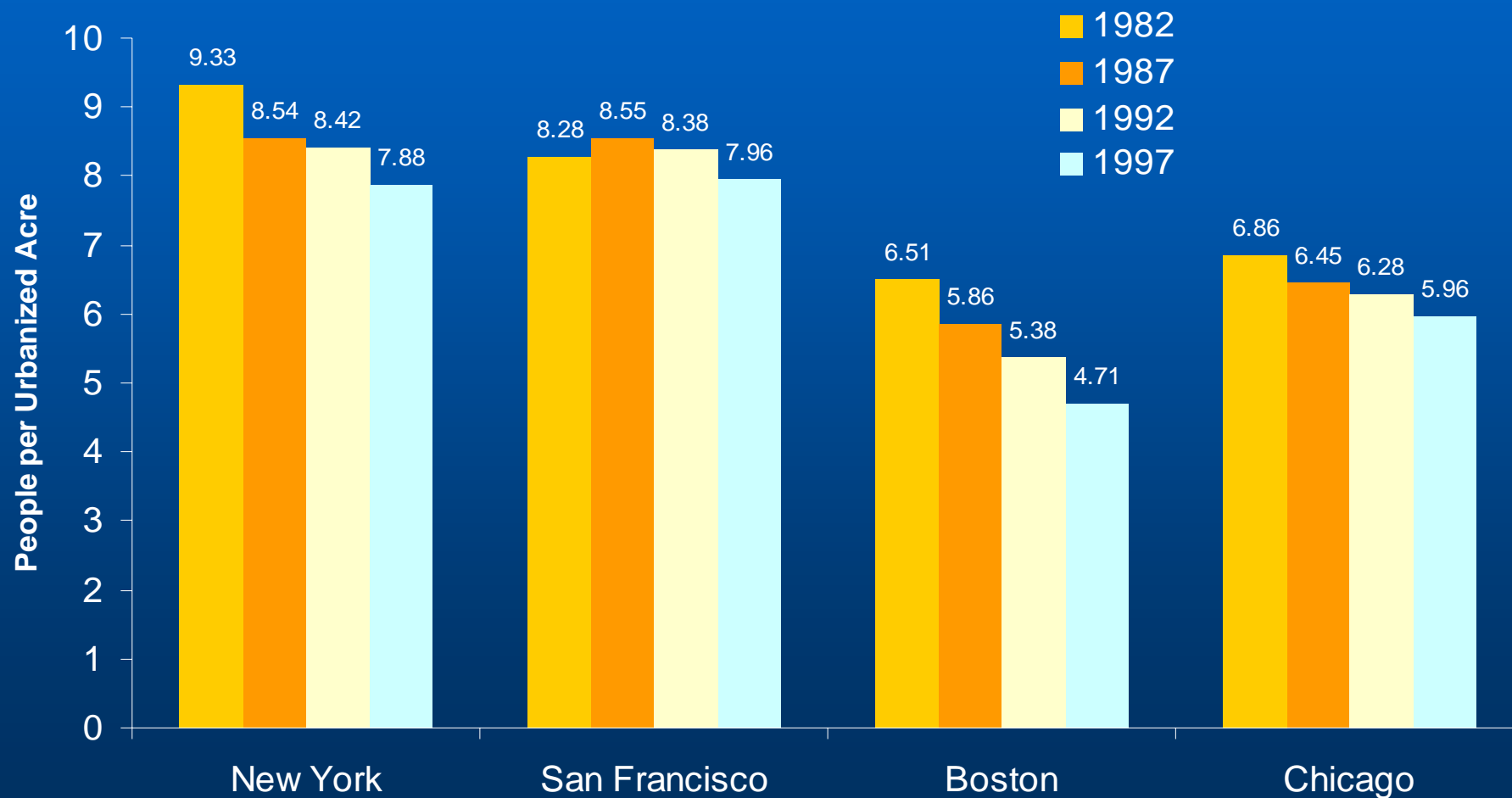
However, due to rapid suburbanization, density has dropped across all regions in the U.S. between 1982 and 1997

| | 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





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



www.brookings.edu/metro

METROPOLITAN POLICY PROGRAM

July 1, 2004

- Home
- ▶ News & Events
- ▶ Scholars
- ▶ Research Topics
- ▶ Programs
- ▶ Publications
- ▶ Bookstore
- ▶ Executive Education
- ▶ About Brookings

[Brookings](#) > Metropolitan Policy

Redefining the challenges facing metropolitan America and promoting innovative solutions to help communities grow in more inclusive, competitive, and sustainable ways.

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.

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

[News Index](#)

▶ read an open letter from Brookings President Strobe Talbott

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

SEARCH BROOKINGS

Advanced Search

Metro Program

- Research by Topic
- Publications
- MetroViews
- Presentations and Events
- About Us

Metropolitan Policy Program

Greater Washington Research Program

SUBSCRIBE TO:

Metro Program Listserv

Stay on top of the latest releases, events, and web features.

First name:

Last name:

Email address:

[Access all lists](#)

