LIVING CITIES
INNOVATE ▸ INVEST ▸ LEAD

# Trends in US cities

Living Cities – Phase I

Final deliverable
May 20, 2012

# Contents

# Activities completed in Phase I as per letter of proposal[1] (1/2)

- ☑ Undertook a market scan to develop a list of ~ 18 key trends affecting US cities
- ☑ Conducted brainstorming workshop with Living Cities senior staff to identify top trends in the social, public, and private sectors
- ☑ Comprehensive review of secondary documents offered by think tanks, non-profits, philanthropies, academia and cities
- ☑ Interviews with City staff, civic leaders, non-profits and think tanks, private sector companies, relevant federal agencies
- ☑ Collaborated with Living Cities senior staff to prioritize the top 5 trend areas for Living Cities and conducted deeper analysis on these areas and their impact on Cities and low income residents
- ☑ Established an outlook on how public investment is likely to change and implications that might have on urban communities and low income citizens

1 As requested the implications of these trends on Living Cities strategy was not addressed in Phase I

# Activities completed in Phase I as per letter of proposal[1] (2/2)

Additional analysis completed

- ✓ Consultation with internal McKinsey expertise, including, leaders from the Cities Special Initiative, Infrastructure practice, Philanthropy practice, Social Sector practice, the McKinsey Global Institute, as well as teams that produced the following reports and databases: An Economy that Works: Job Creation and America's Future; Urban World: Mapping the Economic Power of Cities; India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth; Building Globally Competitive Cities: The Key to Latin American Growth; Urban America: US Cities in the Global Economy; McKinsey Global Institute's (MGI) Cityscope database
- ✓ Identifying illustrative case examples of cities that represent the leading edge of these trends or that have found particularly innovative and effective solutions
- ✓ Gathered comprehensive economic, demographic and social data on the largest 264 US cities
- ✓ Conducted K means archetypeing on ~25 variables to develop 7 US city archetypes
- ✓ Conducted comparative analysis on the 7 city archetypes based on their economic, demographic and social characteristics

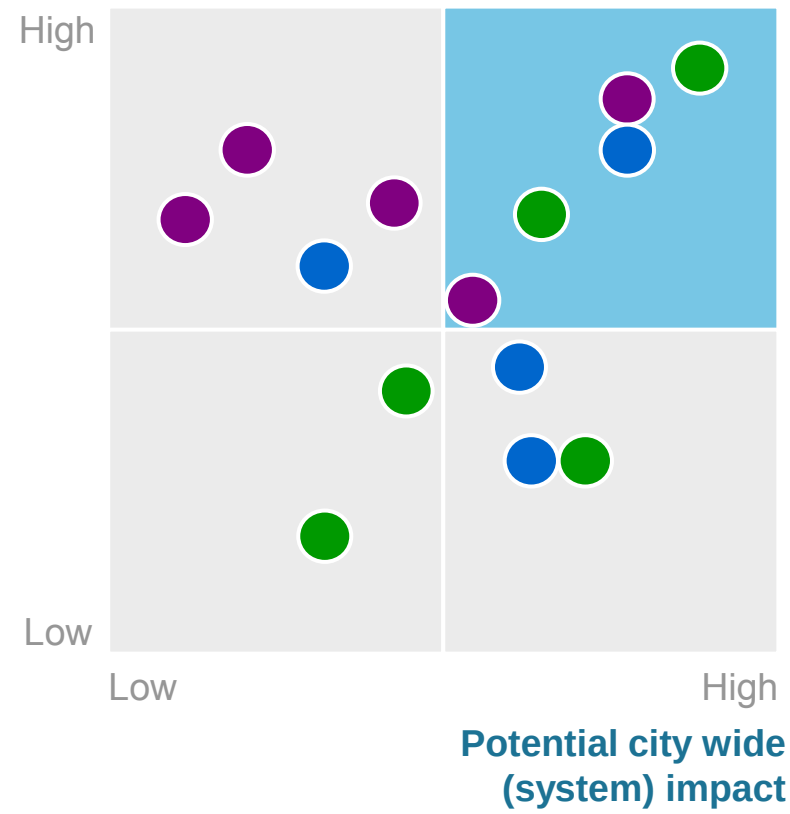
1 As requested the implications of these trends on Living Cities strategy was not addressed in Phase I

# 18 trends were identified in an environmental scan and 5 were prioritized based on their potential impact on city systems and low income residents

## Trends were first filtered against 5 criteria…

- ✓ Is the trend relevant across most (if not all) US cities?
- ✓ Is the trend supported by data analysis and facts that size the financial and socio-economic impacts?
- ✓ Is the trend projected to continue for 5-10 years?
- ✓ Is the trend predictable? (i.e. does it have low variability in highs and lows?)
- ✓ Does the trend have clear implications for how public, private and social sector players can engage?

## …and then prioritized based on their potential city wide (system) impact and impact on low income residents



# 5 trends areas selected for analysis

**Changing demographics** → ← **Technology**

**City systems and low income residents**

### 3 Education

Stagnant educational outcomes have implications for talent production, attraction and matching to jobs

### 4 Employment landscape

Changing economic landscape is creating unemployment and shifting centers of job creation

### 5 Housing

Collapse of housing market and the tightening of the rental market is creating material pressure on household economics and the health of communities

### 2 Infrastructure

- Failing infrastructure is inhibiting economic growth, sustainability and overall mobility of goods, people, and information

### 1 Municipal fiscal strain

- Fiscal strain is causing city governments to reduce services and scale back capital investment but is also triggering innovations in service delivery that benefit

SOURCE: Team analysis

# Objectives of external scan report

PRELIMINARY

- The report covers **five major trends** that are affecting US cities and identifies how cities are responding to these trends
- The report does not attempt to suggest actions for Living Cities or any organization to take, but rather **provides a fact base to inform** Living Cities on these areas

# Contents

# Employment and education should be considered together; job creation creates the demand for labor, and education provides the labor supply

Focus of this chapter

## Education

Outcomes in education have been below expectations leading to

- Increased attention on performance, particularly to improve K-12 outcomes
- Increasing use of technology to improve K-12 and higher education productivity and outcomes

## Job creation and employment

High levels of unemployment is increasing the need to focus on job creation through

- **Spark** – foster innovation, new business creation and new industries
- **Share** – capture a greater share of trade
- **Speed** – remove impediments to business investment and use appropriate incentives

## Matching employees to jobs

- A **mismatch exists** between the nationwide demand for jobs and the expected output by the educational systems – by 2020, ~1.5 million additional college graduates will be needed to meet employment demand and ~ 6 million high school dropouts will not have jobs

Source: Team analysis

# Education

## Current and future trends in K-12

- **A** Poor outcomes despite increased investment
- **B** Persistent racial and income achievement gaps
- **C** Growing fiscal pressure
- **D** Performance focus

- **E** Solutions cities are pursuing in K-12
- **F** Current and future trends in higher education

# Current trends observed in K-12

NOT EXHAUSTIVE

| | | Description |
|---|---|---|
| A | **Poor student outcomes**  | ▪ Increased **investment is not leading to a meaningful improvement in outcomes** – student achievement and attainment outcomes have stagnated despite 4x increase in investment over the last 50 years |
| B | **Racial and income achievement gaps**  | ▪ Persistent achievement gaps leading to particularly **poor outcomes for low-income and racial minority students**<br>– Income achievement gap has increased 40% since the 1960s<br>– Racial achievement gap is narrowing; but remains significant – African American and Latino students are ~1-2 years behind their white peers |
| C | **Growing fiscal pressure**  | ▪ Fiscal pressure on cities and states is reversing the investment trend as **cities are forced to cut costs in education**<br>– Growing pressure on education budgets is leading to layoffs, furlough days, and reduced investment<br>– Policy of laying off teachers based on seniority and not effectiveness may compromise student outcomes |
| D | **Growing focus on performance**  | ▪ States and cities are increasingly focused on **measuring student performance and improving accountability**<br>– No Child Left Behind and data availability are increasingly highlighting the performance gaps and needs<br>– States and cities are embracing common standards and new governance models to improve accountability |

Source: Expert interviews; team analysis

# A Students are exhibiting poor outcomes in a number of areas

| Student outcomes | Examples |
|---|---|
| ▪ Stagnant attainment and achievement | ▪ Over the last 50 years, educational attainment, NAEP scores, and SAT scores have remained flat |
| ▪ Poor performance in math and science | ▪ American 15-year olds rank 24th and 25th in science and math achievement respectively, relative to OECD<br>▪ US ranks 48th of 133 nations in quality of math and science instruction |
| ▪ Low graduation rates | ▪ US high school graduation rate lags nearly all OECD countries – US average of 76% vs. OECD of 82%[1] |
| ▪ Poor institutional outcomes | ▪ In 2011, 48% of public schools were deemed "failing[2]" up 20% from 2010 based on inability to meet annual student progress goals |

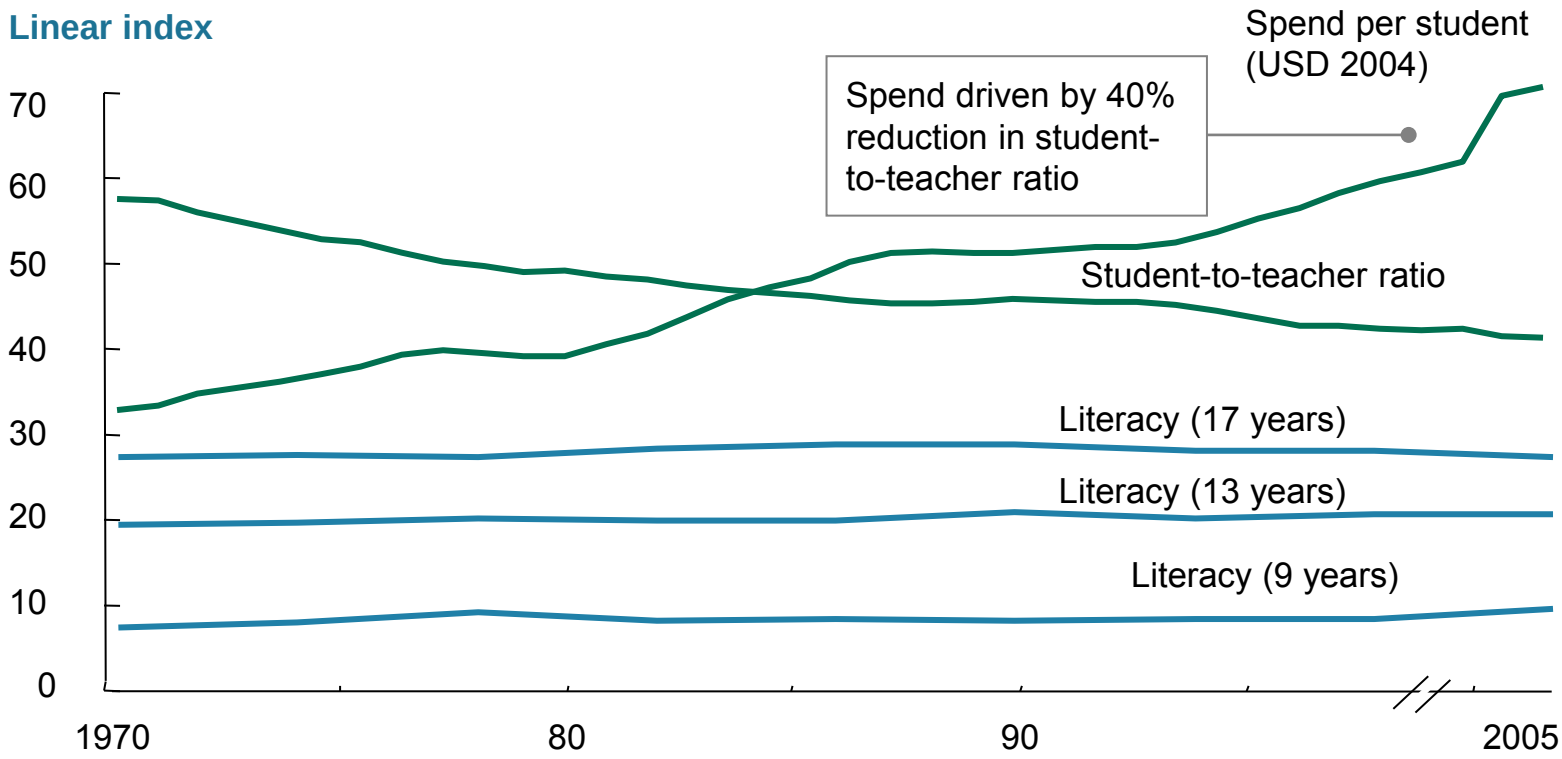
1 Based on proportion of students who graduate within 4 years of starting high school

2 Based on definition from No Child Left Behind, schools are deemed "failing" if they do not make adequate yearly progress for 2 or more years in a row

Source: National Assessment of Educational Progress (NAEP); Current Population Survey 2010; Center on Education Policy; "The Economic Impact of the Achievement Gap in America's Schools", McKinsey; team analysis

# A Increased investment is not leading to improved student outcomes

## Teachers, spending, and performance in K-12 schools in the US



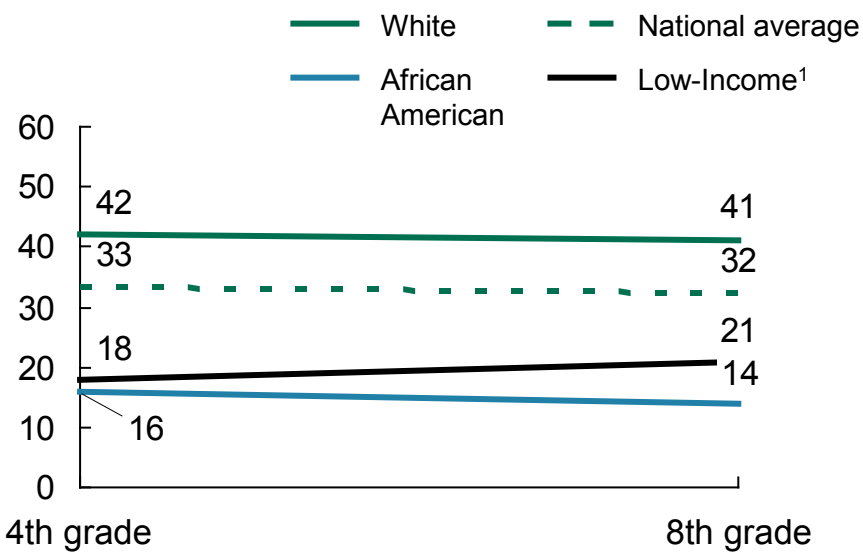

**There is no clear correlation between overall spending and outcomes – *how* a system spends its resources is more important than *how much* it spends**

Source: National Center for Education Statistics; team analysis

# B Outcomes are particularly poor for low-income and racial minority students – they are less likely to complete high school and university

## K-12 low-income and racial minority students are on average 1-2 years behind their peers …

**Students proficient or advanced in reading, 2009**
Percent




Low-income children start school behind their peers

- Wealthy parents invest 9 times more
- Wealthy children start school with 400 more hours spent on literary activities

## … resulting in fewer poor and minority students succeeding in college

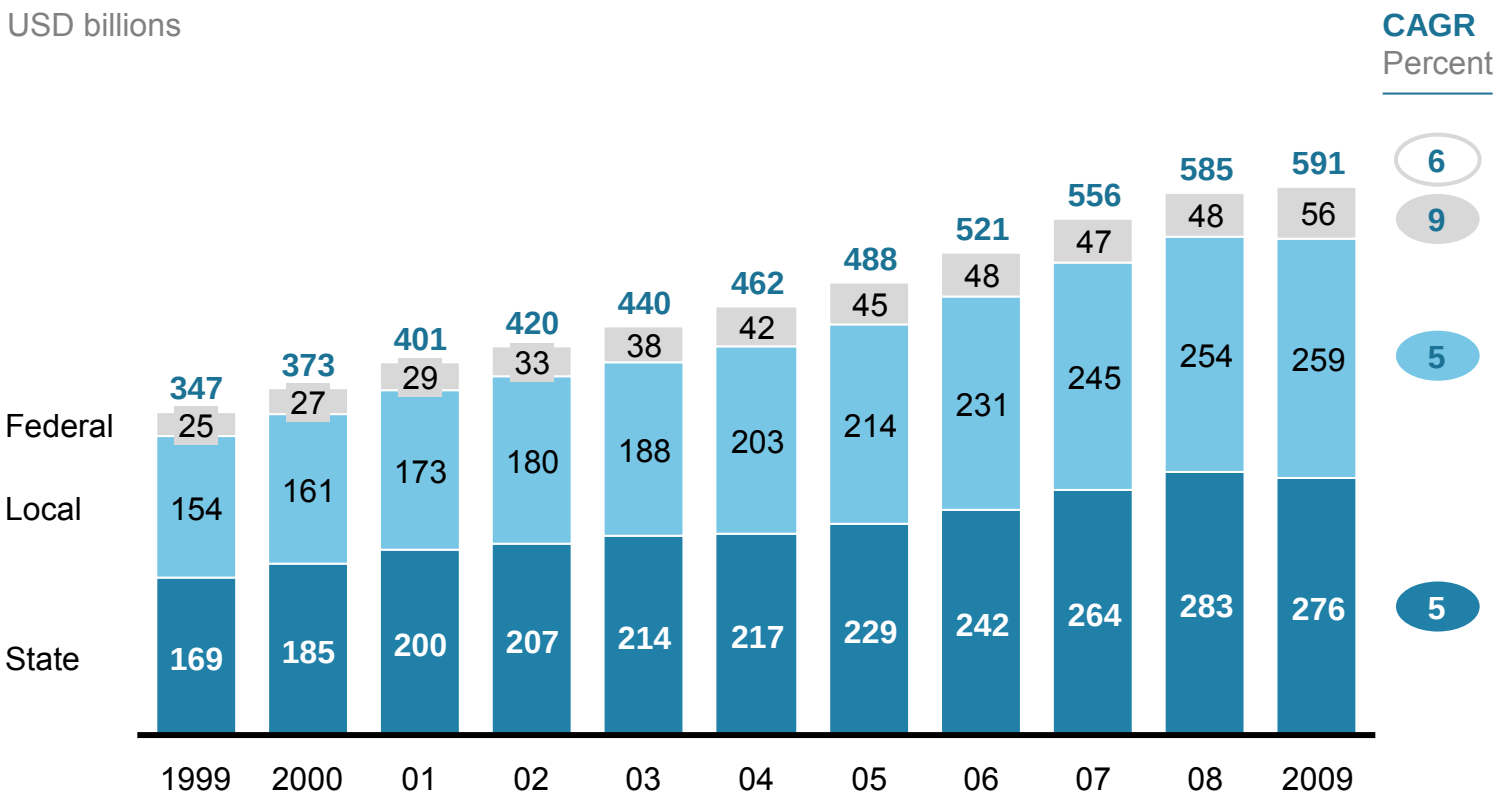
- Very **few low-income students graduate from a 4-year college**, partly due to the rising costs – 41% of low-income students start college, though only 9% graduate
- **Racial gaps in high school graduation** is leading to **poor college participation** and completion
  - Only ~52% of African American students graduate high school on time[2], compared to ~76% of white students
  - Only 20% of Latino students and 30% of African American students earn at least a 2 year college degree, compared to the national average of 41%

1 Students eligible for reduced lunch
2 Graduate within 4 years

Source: National Assessment of Educational Progress (NAEP) 2009 reading assessments; US Census Bureau; Current Population Survey, 2010; Bill and Melinda Gates Foundation

# C Growing fiscal pressure on states and local governments is beginning to reverse the trend of steadily increasing education investment

## Funding for public K-12 schools by source




- State spending declined by USD 1.8 billion in FY 11 and is expected to decline by USD 2.5 billion in FY 12
- As stimulus dollars[1] run out, state and city governments are beginning to cut K-12 spending to close budget gaps



1 American Recovery and Reinvestment Act provided USD 100 billion in education aid to offset state budget cuts in 2009 and 2010

Source: National Center of Education Statistics; Center on Reinventing Public Education report; National Governors Association; team analysis

# D States and cities are increasingly focused on measuring student performance and improving accountability

## Over the past 10 years, cities are increasingly focused on student performance …

- Historic focus on **education "inputs"** (e.g., student-to-teacher ratio, number of computers) deemed ineffective given poor student outcomes
- **No Child Left Behind** and better data availability are creating **increased attention on student outcomes** and identifying failing schools and ineffective teachers
  - All states track school-level outcomes, with **inconsistent support and consequences for failing schools** and **rewards for high-performing** or improving schools

## … and strengthening governance and standards to improve accountability

- States and cities have embraced a growing number of reforms such as
  - **New governance models** (e.g., mayoral authority) to minimize political barriers and enable holistic reforms
  - Policy changes including **revised curriculums** and **higher standards**
  - **Coordinated adoption** of standards and achievement targets across stakeholders at state, city, and school levels (e.g., Common Core, Strive)
  - **Decentralized decision making** and greater autonomy for schools and charter boards coupled with accountability (e.g., New Orleans)

Source: Expert interviews; team analysis

# Education

Current and future trends in K-12

**E** **Solutions cities are pursuing in K-12**

- **E1** **Increasing teacher effectiveness**
- **E2** **Data based decision making**
- **E3** **Innovative school models**
- **E4** **Diverse school operators**
- **E5** **New district models**

**F** Current and future trends in higher education

# E 5 trends are emerging as popular methods to target school outcomes

| | | Description |
|---|---|---|
| 1 | Increasing teacher effectiveness | ▪ Cities are adopting incentive-based teacher and principal performance contracts and evaluation systems which incorporate measures of student attainment and growth (e.g., DC schools) |
| 2 | Data-based decision making | ▪ Improved data systems are being used to transform assessments, inform evidence-based decision making, and monitor performance for all stakeholders, including central offices, schools, and parents |
| 3 | Innovative school models | ▪ Technology offers the potential for innovative school models and improved student outcomes (e.g., virtual classrooms, blended learning models, targeted credit recovery, personalized learning) |
| 4 | Diverse school operators | ▪ Globally, school districts are turning to new school operators including nonprofits, faith-based organizations and the private sector<br>▪ In the US, this is leading to the continued growth of the charter school movement |
| 5 | New district models | ▪ Cities are pursuing new school district management models with budget pressures likely to expedite adoption of lower-cost alternatives (e.g., leaner central office with greater responsibility and autonomy at school level) |

Source: Expert interviews; team analysis

# E1 To increase teacher effectiveness, cities are adopting performance contracts and evaluation systems that incorporate student outcomes

## Major advances in the use of performance evaluations within teacher and principal contracts

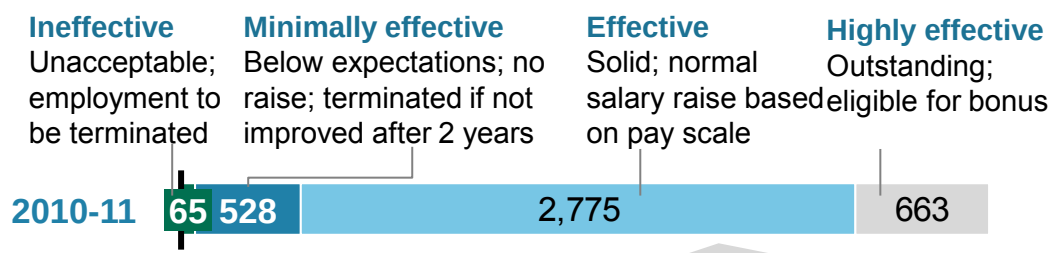
- Cities are designing comprehensive performance evaluation systems, based on metrics that use objective evidence of student learning to:
  - Distinguish high performing teachers
  - Identify teachers in need of support
  - Take action against ineffective teachers
- The number of states using these systems increased 53% (from 15-23%) from 2009-2011
- 10 states and DC have **also aligned teacher performance to salary raises and bonuses** (e.g. FL and TN)

## Case study – performance pay contract in DC Public Schools

- In 2009, the DC Schools Chancellor signed a voluntary performance pay contract with the Washington Teachers Unions in tandem with a new teacher evaluation system. Key features include
  - High performers can earn USD 20,000-30,000 more based on improvements in student test scores and other metrics
  - Termination for teachers deemed ineffective or not improving
  - Principals make staffing decisions
  - Teacher evaluation informed by valued-added modeling

### Results from IMPACT[1] teacher evaluation

Number of teachers, 2010-11 school year

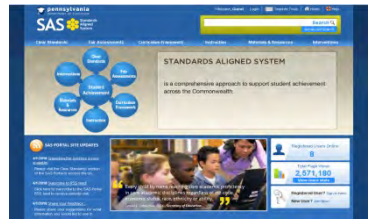



**16% of teachers were eligible to receive bonuses while 4% were terminated for being ineffective or not improving**

1 Introduced by DC Public Schools (DCPS) in 2009, IMPACT is the DCPS Effectiveness Assessment System for School-Based Personnel

Source: National Council on Teacher Quality: State of the States, October 2011; DC Pubic Schools; team analysis

# E2 Data systems are transforming assessments, informing evidence-based decision making, and enabling better performance management

| | Description | Examples |
|---|---|---|
| **Transform student assessments** | ▪ Improve teacher productivity and assessment quality<br>– Enable creation of better, more frequent assessments that source from large digital content resources while increasing level of student engagement<br>– Reduce burden on teachers from test design and grading<br>– Improve the usefulness of results by providing real-time identification of individualized interventions and remediation options | The Virtual Assessments Project<br>Harvard Graduate School of Education<br>wireless generation®<br>AIMSweb® Assessment and Data Management for RTI |
| **Inform evidence-based decisions** | ▪ Provide a rich fact base to guide strategic decisions<br>– Identify and track teaching practices or programs that demonstrate effective learning outcomes<br>– Develop accurate and granular data on skills required from labor force<br>– Inform KPIs to assess program impact |  |
| **Enable real-time access to outcomes** | ▪ Provide data in a format useful to multiple stakeholders (e.g., principals, central office leaders) to enable easy monitoring and identification of high and low-performing schools<br>▪ Enable parents to access outcomes and better engage in their children's development |  |

Source: Chicago Public Schools; Pennsylvania Standards Aligned System; team analysis

# E3 Technology is enabling the growth in virtual and online school models – to improve both effectiveness and efficiency

## System objectives

- Personalizing and improving learning opportunities for students by moving from
  - Age cohorts to individual students
  - Sequential to adaptive content
  - Annual assessments to instant feedback
  - Individual institutions to networks
  - Limited to unbounded course offerings
- Improving teacher productivity by
  - Enabling staffing and training focus to "core" courses – blended models enable 3 teachers to cover 4 classrooms
  - Reducing pressure for additional courses or facilities (to provide them)

## Key enablers

- Policy changes
  - 27 states with state virtual schools
  - 25 states now allow virtual charter schools
  - Potential funding opportunities from Race To The Top and Common Core Standards
- Technology advances
  - More broadband in schools and homes
  - Cheaper access devices
  - Development of adaptive content and assessments
  - Student performance data and learning management system

- **Best estimates suggest that 2% of K-12 students are taking online or "blended" courses**
- **Represents an increase of nearly 65% in 3 years**

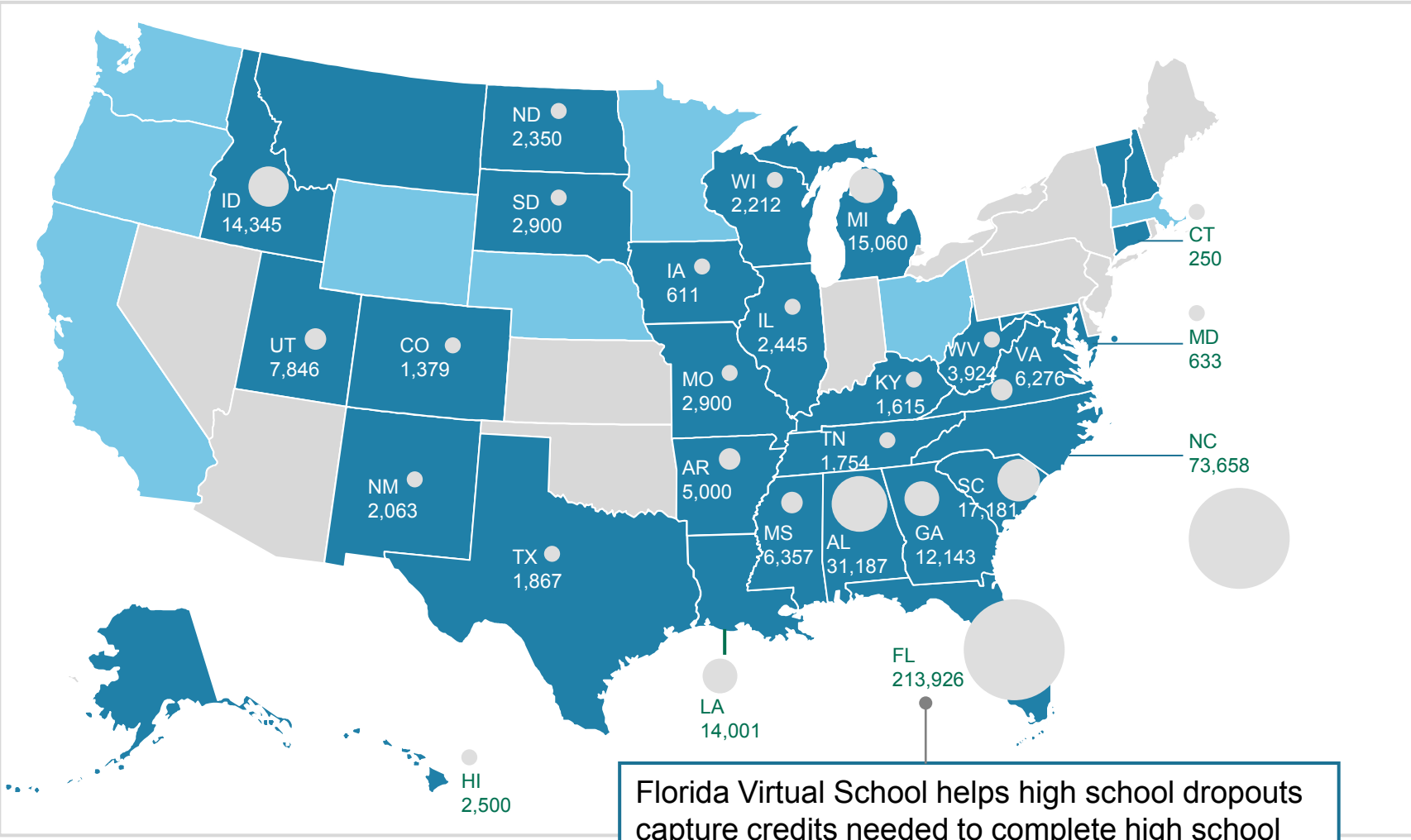
Source: VanderArk Presentation, National Association for K-12 Online Learning Annual Conference; US Department of Education; team analysis

# E3 Enrollment in virtual school models varies widely by state

**Number of course enrollments, 2009-10**

Over 35,000 | 20,000-35,000 | 10,000-19,999 | 5,000-9,999 | Less than 5,000

States with neither
States with a state-led online initiative
States with a state virtual school




Florida Virtual School helps high school dropouts capture credits needed to complete high school

Source: Team analysis

# Strive Partnership provides at-risk individuals with cradle to career support

Strive Partnership

Cincinnati | Covington | Newport

## Basic facts

- Founded in 1984, STRIVE is been a leading workforce development agency, helping nearly 50,000 individuals in New York City and across the country on the path to sustainable employment and a better future for themselves and their families.
- The Strive Partnership is a cradle to career education partnership focused on improving student achievement and growth – kindergarten readiness rates through postsecondary completion rates – in the urban core of Cincinnati, Covington and Newport.

## Size (FTEs/budget)

- A Trio of Cincinnati funders—KnowledgeWorks, the Greater Cincinnati Foundation, and United Way of Greater Cincinnati—help efforts by helping guide funding. KnowledgeWorks has continued to fund The Strive Partnership's dedicated staff through contributions of $500,000 per year. Strive also has received commitments from two other foundations that will provide funds primarily to their partners, ensuring that they are capable of continuing their high-quality services.

## Mission

- To transform the lives of at-risk populations by providing support and training that lead to livable wage employment and societal reintegration, to the most chronically unemployed, at-risk individuals –and ensuring the necessary follow-up services to help them succeed over the long-term.

## Governance

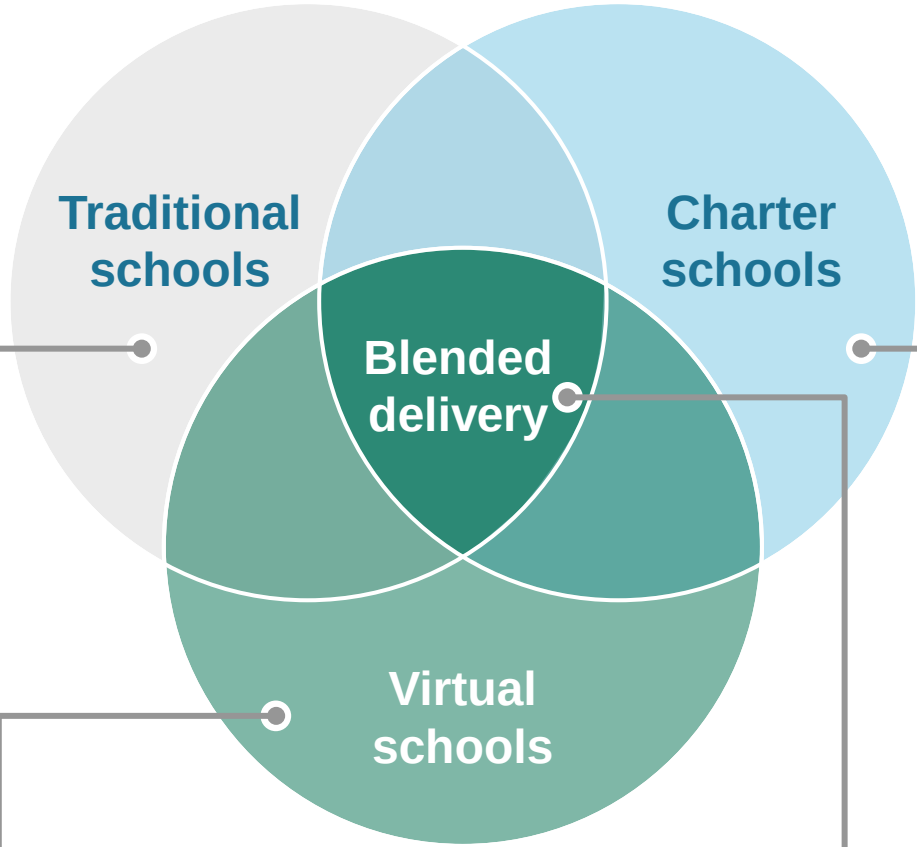
- Board member organizations come from Deutsche Bank, The Jeffrey Group, Jefferies Capital Partners, American Express Philanthropy, Union Theological Seminary, Reed Smith LLP, and People Finders Production
- Executive committee members include Cincinnati Children's Hospital, YMCA of Cincinnati, Xavier University, Gateway Community and Technical College, Procter & Gamble, Covington Independent Public Schools, Cincinnati Business Committee, Urban League of Greater Cincinnati, JP Morgan Chase & Co, Toyota, PNC Bank, Kroger
- Philanthropic Support: KnowledgeWorks, Greater Cincinnati Foundation, United Way of Greater Cincinnati

## Details

- **Early Childhood Education** In Northern Kentucky, local data show that Success By 6® investments and data-driven continuous learning and improvement planning are making a difference.
- **Linking Community Supports to Student Achievement** the P&G Fund is investing $300,000 over three years in this collaborative action plan. Funded partners will work collaboratively around recruitment, training, and impact in priority schools, such s Covington Partners in Prevention (CPIP) which has convened providers around college access, mentoring, youth leadership, health wellness and parent engagement.
- **Teacher and Principal Excellence** The Ascend Performance Institute launched in June with its first cohort of 31 schools, including 21 local schools from CPS, Covington, and the Archdiocese.
- **Postsecondary Access and Success** Progress continues with a college access pilot project underway at Woodward High School with the Learning Partner Dashboard
- **Promoting Data-Informed Decision-Making** the Partnership will introduce Impact U, a series of workshops and coaching designed to build the capacity of nonprofits to implement continuous improvement processes and manage organizational impact in support of key community indicators.
- **Advocacy and Funding Alignment** The Social Innovation Fund has 16 local funders engaged, with 9 selected grantees spanning the cradle to career continuum. Talks are underway with funders to expand this collaborative around what works, along the cradle to career continuum.

# E3 A "blended delivery" model of instruction is emerging and sparking some convergence in traditional, charter, and virtual schools

- Offering more online course offerings, particularly for electives
- Integration of digital or online content into traditionally instructed classrooms




- Creation of new "blended" charter models which leverage online content and courses
- Existing charters seeking scale solutions

- Opening some "brick and click" facilities
- Offering social learning platforms
- High support for credit recovery courses

Combines physical (face-to-face) and online delivery of instruction and learning opportunities

Source: VanderArk Presentation, National Association for K-12 Online Learning Annual Conference; team analysis

# E4 Globally, the provision of schooling is becoming more diverse, as different public and private operators continue to grow, providing parents more choices

ILLUSTRATIVE EXAMPLES

| | Pakistan's low-cost private schools | Swedish independent schools | UK academies and free schools |
|---|---|---|---|
| **Description of model** | ▪ Run by NGOs or individuals, typically from the local community<br>▪ Funding through monthly student fees, with select discounts<br>▪ Teachers are sourced from the community and are not required to have a university degree, resulting in more women<br>▪ On average, 40% lower cost than government schools<br>▪ On average, students are 2 years ahead of government students | ▪ Receives private donations<br>▪ Can operate for profit<br>▪ Often has a religious affiliation<br>▪ Open to all students<br>▪ Must follow national curriculum | ▪ Receives private donations<br>▪ Generally not for profit<br>▪ Newly established schools may not be more selective than other state schools<br>▪ Free from many policies affecting traditional schools (e.g., teacher's pay, qualifications, conditions)<br>▪ Not required to follow national curriculum |
| **School footprint** | **30% schools opened in the last 5 years** | **900 schools** since enabling law in 1992[1] | **825 schools** since enabling law in 2002 |
| **Students served** | **3.9 million students and 60% of population served in Karachi** | **8% primary and 15% secondary populations served** | **20% of all secondary schools in England** |

1 900 schools as of 2008

Source: Government of Sweden; BBC; UK Department for Education; Survey of 100 low-cost private schools in Karachi (PETF 2010); team analysis

# E4 In the US, this has given rise to the growth of charter schools

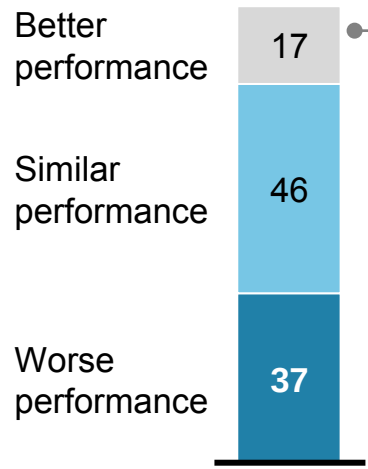
## US charter schools continue to gain momentum …

- Permitted in 40 states and DC, charters tend to serve a higher percentage of low-income, minority, and urban students
- In the last 10 years, charter school enrollment has increased by ~4 times
  - 5,000 charters with 1.6 million students served (~3% of K-12 market share)
  - Reached scale in many cities
    - New Orleans charters are serving 70% of the public school students and demonstrating the highest city outcomes
    - 6 additional school districts have more than 30% share and 18 districts have more than 20%

## … yet, overall performance has been mixed

**Overall charter performance vs. traditional public schools**

Percentage of charter schools (2009) = 2,403 schools[1]




- Charters show greater student gains in states with strong laws
- Of the 100 best schools closing the achievement gap for low-income and minority children, a disproportionate number are charter schools such as KIPP[2]

1 Based on charter school performance in 16 states
2 Knowledge is Power Program charter schools

Source: "Multiple Choice: Charter School Performance in 16 States", CREDO, 2009 based on math gains; National Alliance for Public Charter Schools; team analysis

# E5 Cities are pursuing new district management models with budget pressures likely to expedite adoption of lower-cost alternatives

School districts are embracing **alternative district management models** including

- Decentralized responsibility and increased autonomy for schools and principals
- Leaner central office focused on playing targeted role

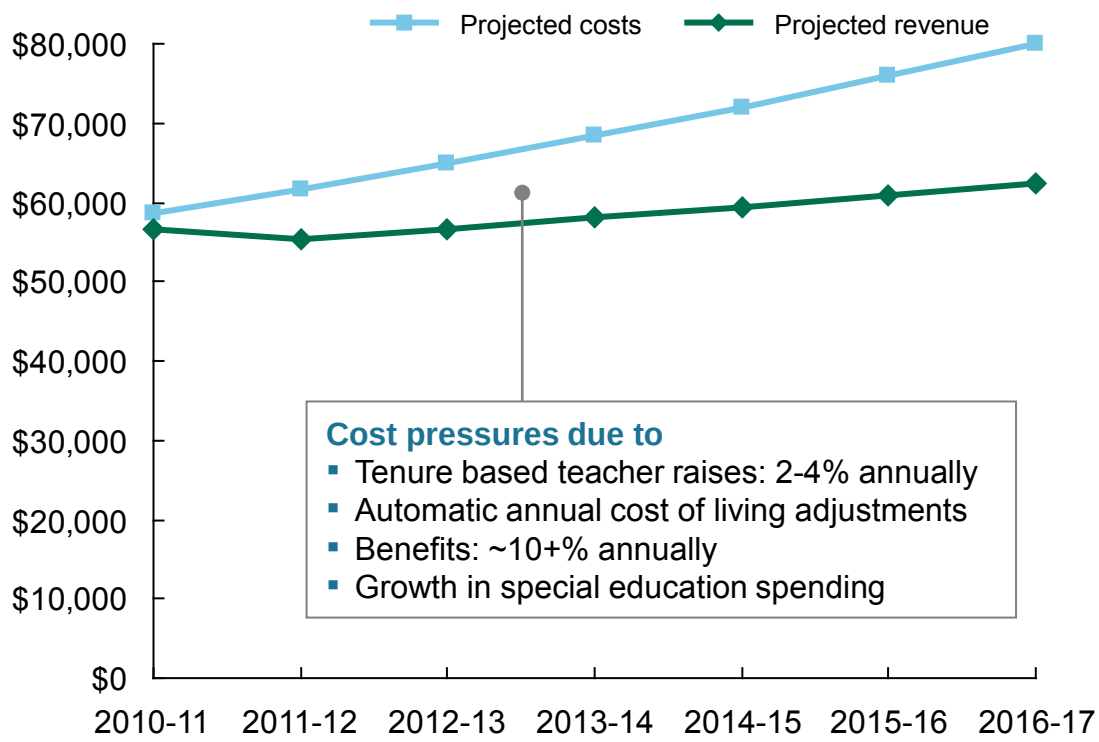
## Example – New York City Public Schools

- City's reform agenda is centered on principal empowerment and accountability
  - Targeted DOE role – responsible for operational aspects of schools (e.g., standards, student placements, funding, and recruitment)
  - Principals oversee day-to-day decisions
  - High school superintendents supervise schools, evaluate principals, and work to ensure schools meet targets
  - Each school is affiliated with a network support organization to provide instructional support, help meet targets, and aid professional development

## Current models are not sustainable as labor costs are increasing faster than revenues

**Example – projected school district shortfalls[1] in New York state**

USD Millions




**City budget pressures likely to expedite adoption of lower-cost alternatives**

1 Findings presented to the New York School Council of School Superintendents (NYSCOSS), September 2011

Source: Marguerite Roza, NYSCOSS; team analysis

# Education

Current and future trends in K-12

E Solutions cities are pursuing in K-12

F **Current and future trends in higher education**

- F1 **Constrained resources**
- F2 **Substandard student outcomes**
- F3 **Student needs, skills, expectations**
- F4 **Stringent institutional obligations**
- F5 **Innovative technologies and models**

# F Current trends observed in higher education

## Selected trends

### 1 Constrained resources

- Fewer institutional resources are available as public funding declines (e.g., state appropriations per full-time student declined by 9% in constant dollars in 2008-09, 6% in 2009-10, 4% in 2010-11)
- Reduction in private donations
- Tuition is increasing as families and students face tighter financial constraints

### 2 Substandard student outcomes


- Reduced student access, stagnating college attainment, and lower graduation rates are affecting US cities – unemployment rates are also high for recent college graduates

### 3 Student needs, skills, expectations

- New students have different needs and expectations from previous generations
- Tighter job markets
- Employers are demanding more specific skills

### 4 Stringent institutional obligations

- Increased public scrutiny and consequent regulations and reporting requirements

### 5 Innovative technologies and models

- Growth of technology-driven and new education models is a growing solution trend

Source: Digest of Educational Statistics; National Center for Education Statistics: National Postsecondary Student Aid Study; expert interviews; team analysis

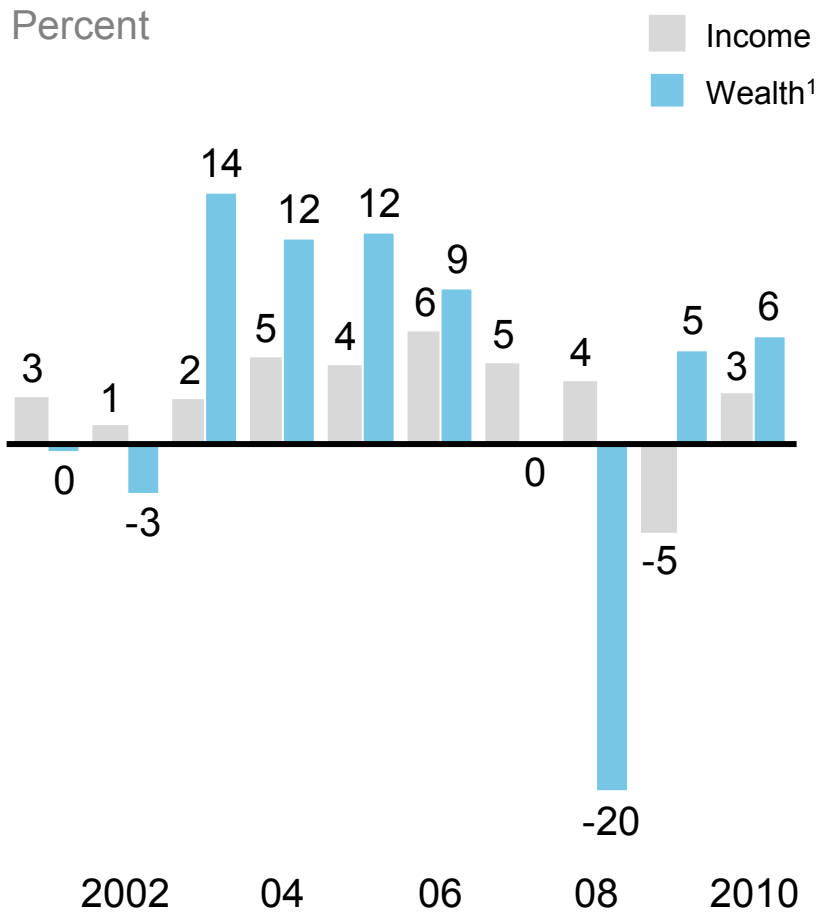
# F1 Non-tuition sources of funding are expected to have limited growth, and tuition increases face growing public scrutiny

| | Recent funding outcomes | Future funding expectations |
|---|---|---|
| **Federal/ state** | ▪ **Decline** – funding per student has fallen at the federal level since 2006 and among states since 2000 | ▪ Growing pressure on federal and state budgets is expected to limit funding levels further<br>▪ Funding per student is flat to decreasing depending on levels of enrollment |
| **Endowment and giving** | ▪ **Decrease** in investment income– sharp losses to endowment portfolios during recession<br>▪ **Increase** in giving – 6% CAGR in giving 2005-08 | ▪ Endowment and giving is cyclical and is considerably impacted by macroeconomic and market conditions |
| **Research** | ▪ **Flat** – federal research dollars at nearly same (inflation-adjusted) level in 2009 as in 2001 | ▪ Pressure on federal and state budgets is expected to limit funding levels from government sources |
| **Tuition** | ▪ **Increase** of 4.5% in net tuition increase per annum 2000-08 (real dollars) | ▪ Concerns regarding student access and affordability may bring additional public scrutiny and resistance to further tuition increases above the rate of inflation |

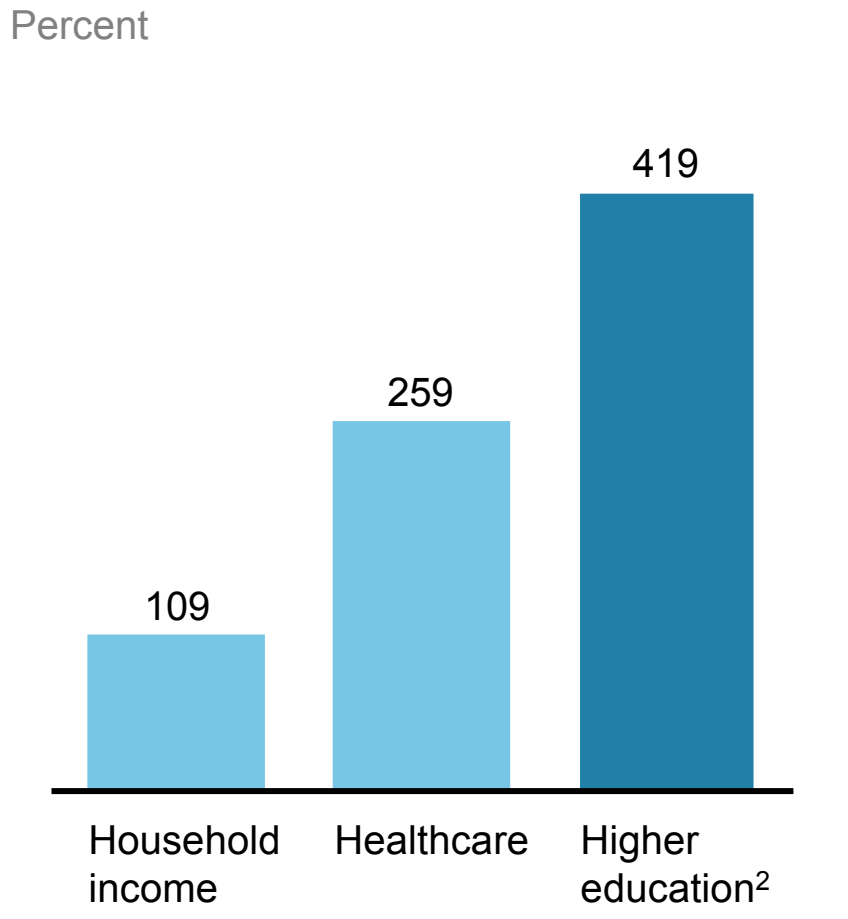
Source: Digest of Educational Statistics, tables 362, 365, and 380; National Center for Education Statistics: National Postsecondary Student Aid Study; team analysis

# F1 Household income and wealth increases have slowed, while higher education costs are increasing faster than income and healthcare …

## Annual percentage change in household income and wealth




## Estimated increase in cost between 1985 and 2010



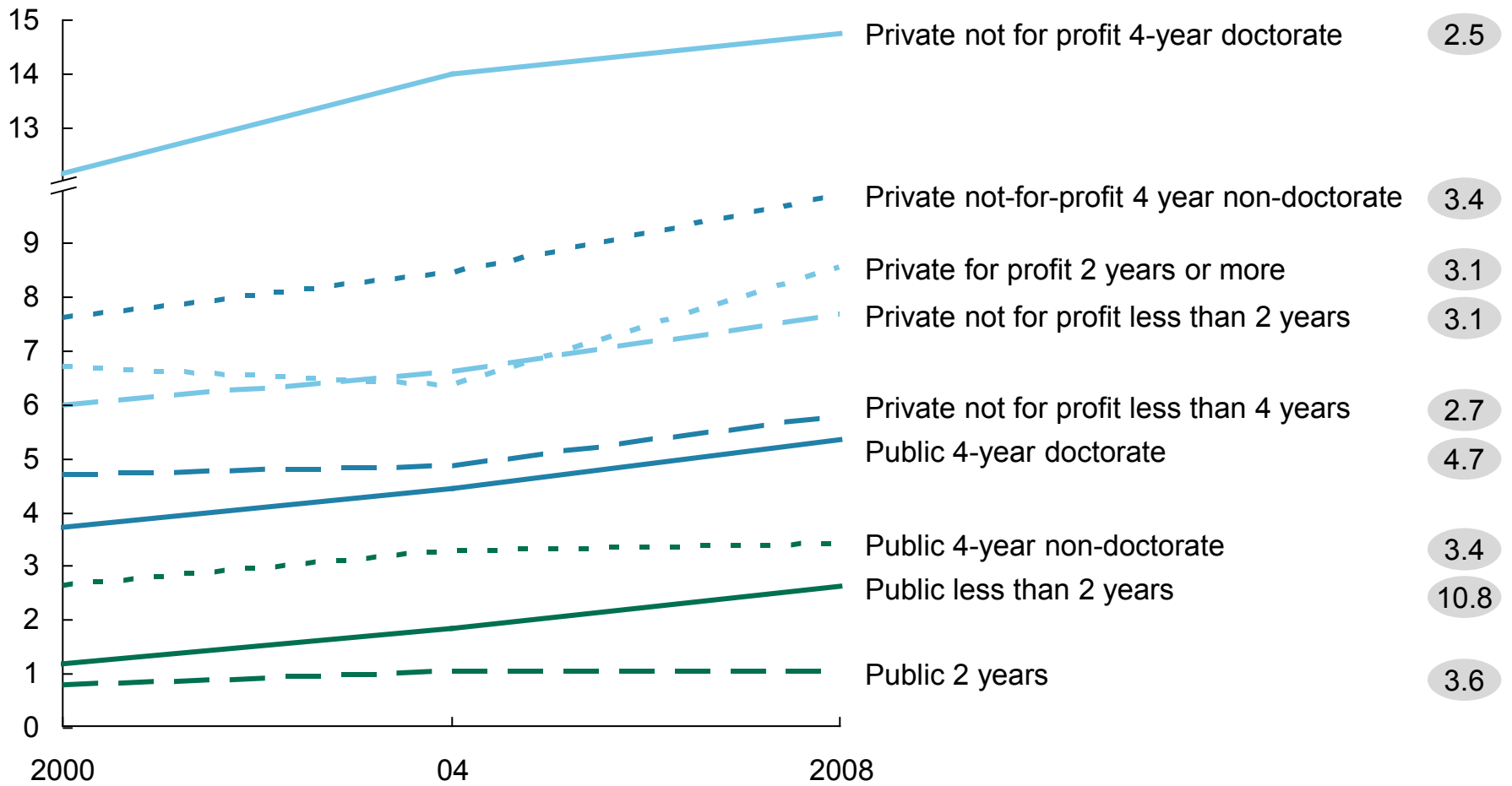

1 Household wealth includes the net worth of households and nonprofit organizations
2 Average tuition at 4-year institutions

Source: McKinsey Global Institute; Bureau of Census; National Center for Public Policy and Higher Education

# F1 … and net tuition continues to outpace inflation

## US undergraduate net tuition (tuition plus fees minus all grants), 2000-08

Constant 2008 USD thousands per student per annum




Source: National Center for Education Statistics: National Postsecondary Student Aid Studies 2000, 2004, 2008; team analysis

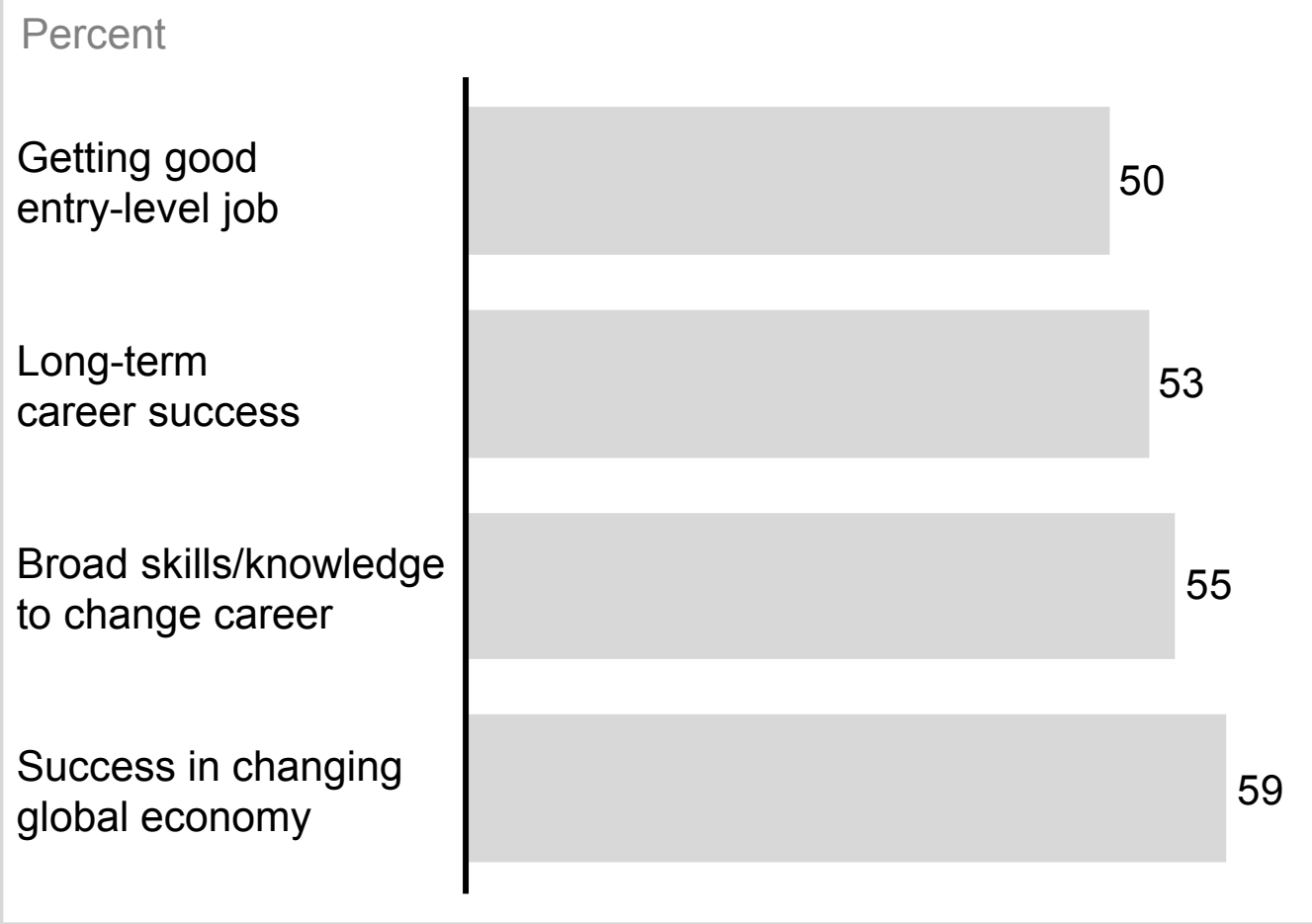
# F2 Higher education is an increasingly difficult environment for students, driving substandard outcomes

| Student difficulties | Examples |
|---|---|
| ▪ Decrease in access to higher education | ▪ California colleges turn away over 200,000 students |
| ▪ Stagnant attainment | ▪ The US has the highest spend per student in OECD, but only ranks 10th in attainment for cohorts aged 25-34 |
| ▪ Low graduation rates | ▪ Average 60% graduation rate for bachelor's degrees<br>▪ Average 20% graduation rate for sub-bachelor's degrees |
| ▪ Increase in tuition and fees (increasing cost to households) | ▪ In-state tuition at public 4-year colleges increased 5.6% per year **beyond** the rate of general inflation[1]<br>▪ In-state tuition at public 2-year colleges increased 3.8% per year **beyond** the rate of general inflation[1] |
| ▪ High unemployment among recent graduates | ▪ 14.5% unemployment for recent graduates compared to the national average of 9.4%[2] |

1 Over the decade from 2001-02 to 2011-12
2 December 2010
Source: Digest of Educational Statistics; National Center for Education Statistics: National Postsecondary Student Aid Study; team analysis

# F3 The newest crop of students expect better preparation for joining the workforce

## Recent 4-year graduates state they are *not* well prepared



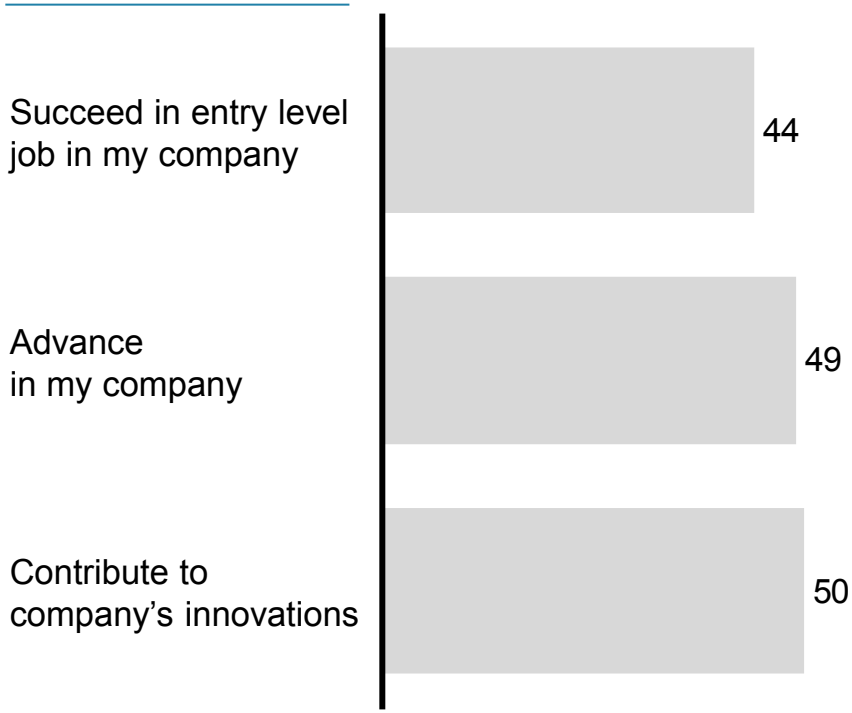

Source: The Sloan Consortium, "Staying the course: Online education in the United States, 2008"; National Survey of Student Engagement, 2008; team analysis

# F3 Many employers are dissatisfied with the skill sets of degree holders

## Employers are dissatisfied with skillsets …

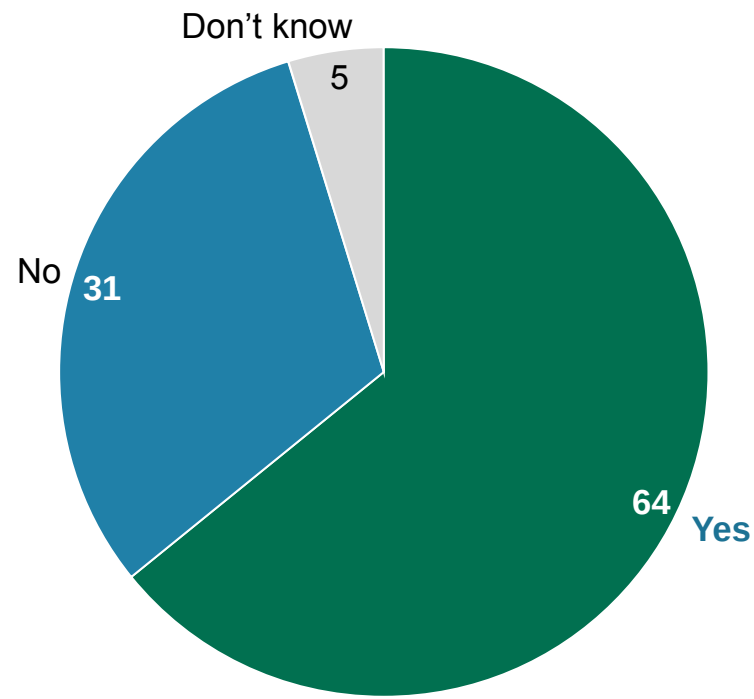
**How prepared are recent graduates for success in your company?**
**US Employer Survey of Recent 4-year graduates**, Percent

***Not* well prepared to**




## … and report having difficulty in filling open positions

**Are there positions in your company for which you usually find it difficult to find qualified applicants?**
Percent (n = 2,000)




Source: Survey focused on 4-year graduates. AAUC, "How Should Colleges Prepare Students To Succeed in Today's Global Economy?" (January 2007); Survey of 4-year graduates; team analysis

# F4 There is increasing debate around higher education costs, outcomes and regulations

## Increased debate about value and sustainability

Increasingly **critical discourse** about higher education from across the political spectrum

*If colleges were businesses, they would be ripe for hostile takeovers*
- US News and World Report (2010)

*[Elite] higher education has become a luxury good, the educational equivalent of a Prada shoe … consumers aren't paying for quality alone—they're also paying extra for scarcity and a prominent brand name.*
- Kevin Carey, "That Old College Lie" (2011)

*Students who struggle to pay for college and emerge into a tough job market have a right to know that they have learned something.*
- Richard Arum, NYU Professor, in Academically Adrift (2011)

## Increased demand for transparency of outcomes

Moving beyond traditional rankings, often to **"consumer" information** about quality, e.g.,

- Student and alumni-driven surveys of information on institutional environment, characteristics, and quality

  College Prowler® WWW.COLLEGEPROWLER.COM

- Surveys of students' and employers' satisfaction

  Law School Survey of Student Engagement

- Alternate ranking methods, criteria

  The Economist MBA

## Increased regulations

Often **focused on teaching outcomes,** spanning retention to employability, e.g.,

- Gainful employment regulations, effective 2012, link the ability of career-focused programs to receive federal student aid on graduates' ability to repay student loans
- Performance based funding, currently focused at the state level, ties public funds to student completion rates

Despite perceptions of financial value
- **94%** of parents expect their children to attend college
- **80%** of general public believes college education is important to succeed in today's world

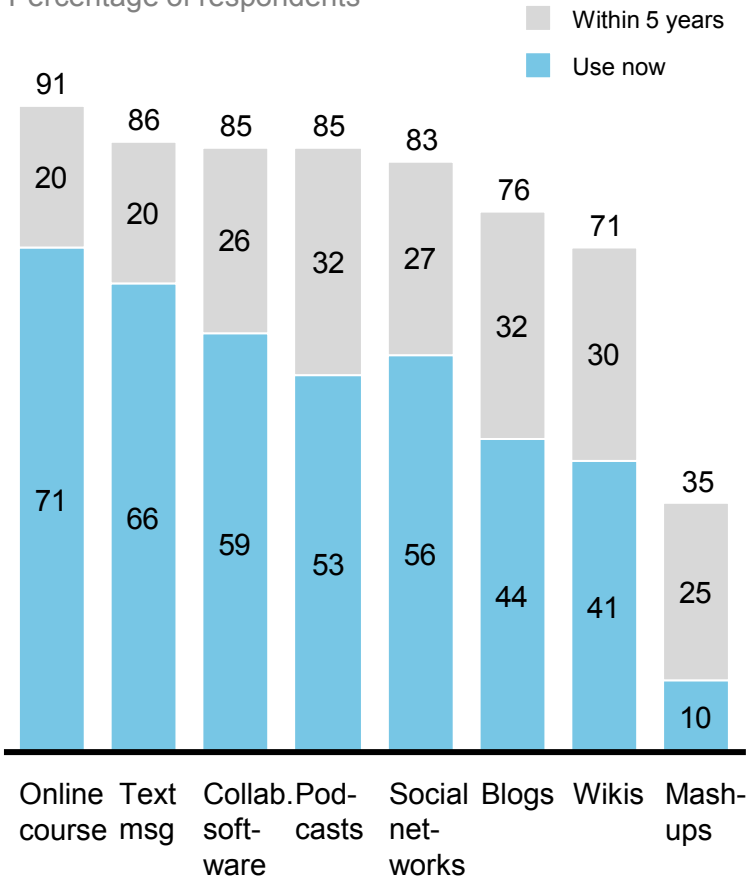
Source: National Bureau of Economic Research, "The Falling Time Cost of College," published April 2010, http://www.nber.org/papers/w15954, accessed July 27, 2010; team analysis

# F5 Technology will become more interwoven into the fabric of academic life

## Technology is increasingly changing today's classrooms …

### Which tools does your institution use, and which do you think will be used within 5 years?

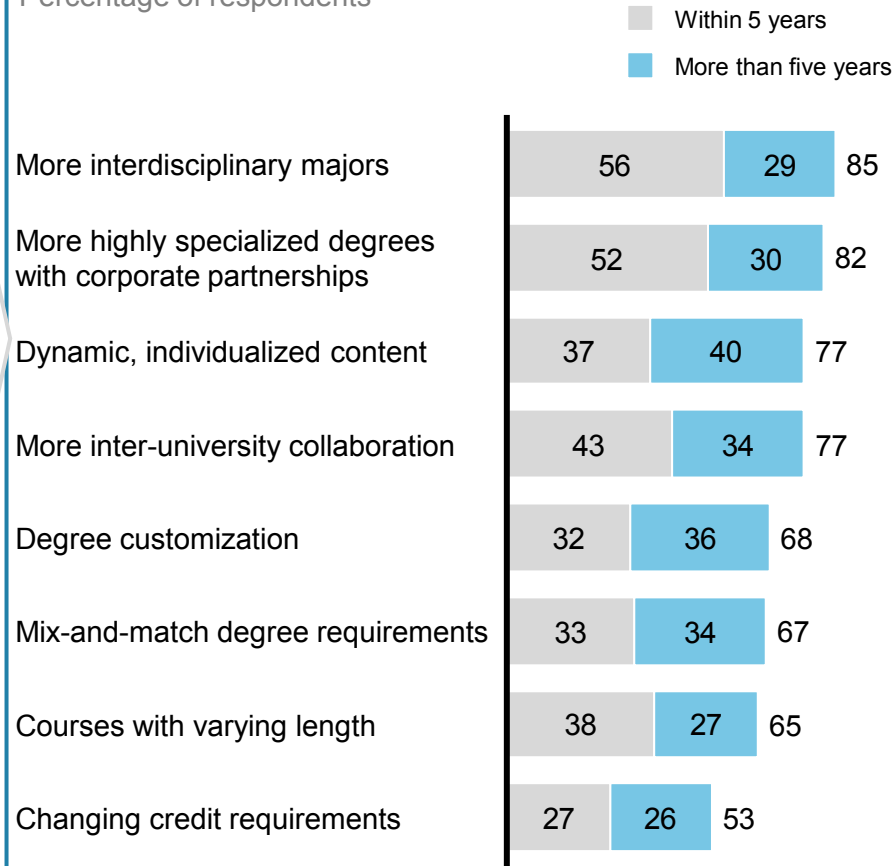
Percentage of respondents




## … with an interesting range of possibilities regarding how it is most likely to affect future academic offerings

### How is technology most likely to affect academic courses and degree offerings in your country?

Percentage of respondents




Source: The Economist Intelligence Unit 2008, "The Future of Higher Education: How Technology Will Shape Learning"; team analysis

# Contents

# Employment and education should be considered together; job creation creates the demand for labor, and education provides the labor supply

Focus of this chapter

## Education

Outcomes in education have been below expectations leading to

- Increased attention on performance, particularly to improve K-12 outcomes
- Increasing use of technology to improve K-12 and higher education productivity and outcomes

## Job creation and employment

High levels of unemployment is increasing the need to focus on job creation through

- **Spark** – foster innovation, new business creation and new industries
- **Share** – capture a greater share of trade
- **Speed** – remove impediments to business investment and use appropriate incentives

## Matching employees to jobs

- A **mismatch exists** between the nationwide demand for jobs and the expected output by the educational systems. By 2020, ~1.5 million additional college graduates will be needed to meet employment demand and ~ 6 million high school dropouts will not have jobs

Source: Team analysis

# Employment landscape

## Current and future trends

- **Changing employment landscape**
  - **A** High job losses, particularly for low skilled workers
  - **B** Decreasing labor mobility
  - **C** Shifting demand for labor
  - **D** Aging workforce
- Growing talent and skills gap: matching employees to jobs
- Solutions trends: job creation

# The recession, demographic shifts, and structural economic changes are leading to several changes in the US employment landscape

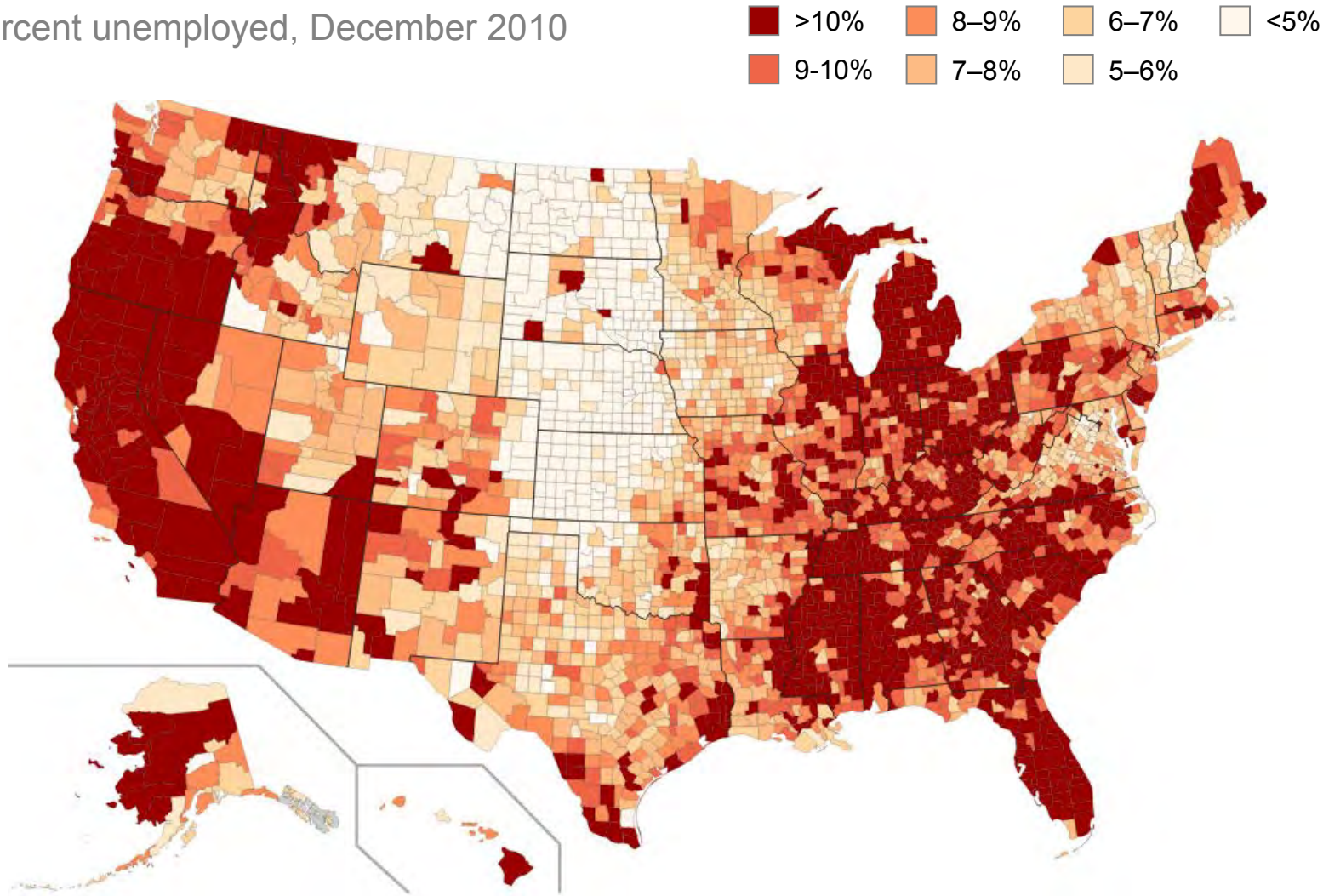
| | | Description |
|---|---|---|
| A | High job loss among low-skilled  | ▪ High unemployment is being felt across the US, with low-skilled workers being hit the hardest |
| B | Decreasing labor mobility  | ▪ Labor mobility in the US is at the lowest point in 50 years, preventing the efficient reallocation of labor across geographies |
| C | Shifting demand for labor  | ▪ Demand for labor in cities is being shaped by forces including macroeconomic trends, globalization, and growing business complexity<br>▪ Overall decline in job growth over the last 10 years, with job opportunities shifting from manufacturing to services |
| D | Aging workforce  | ▪ The workforce is aging rapidly with 30% of workers within 10 years of retirement |

Source: Expert interviews; team analysis

# A The unemployment rate varies widely across the US

## Unemployment rate

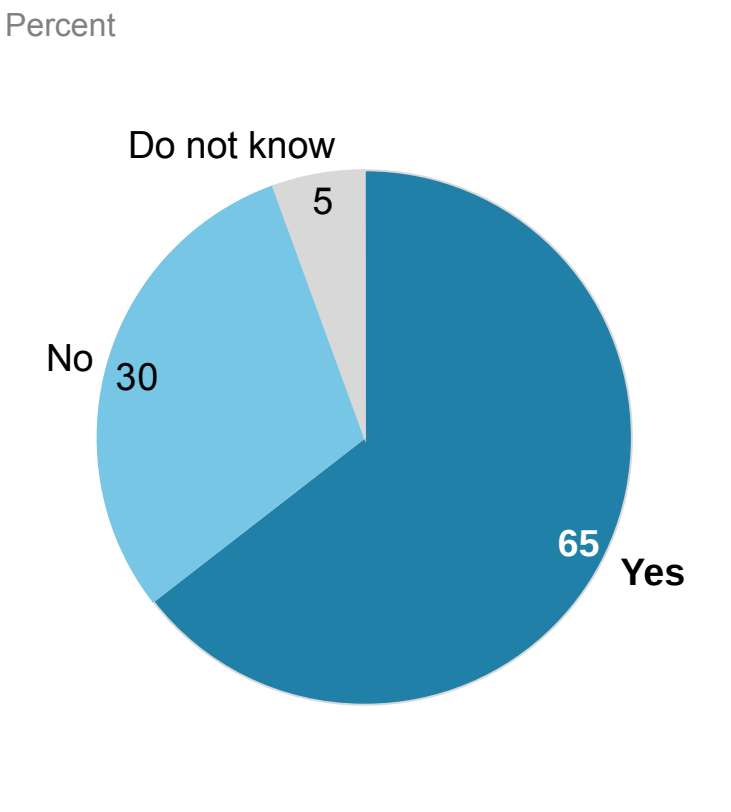
Percent unemployed, December 2010



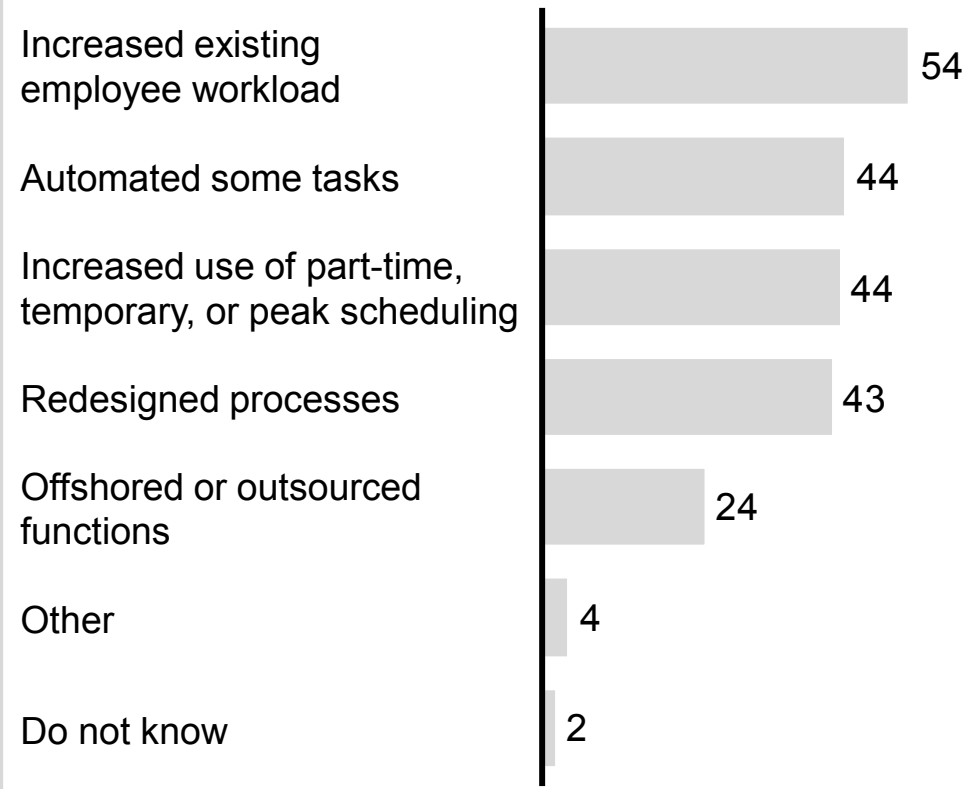

Source: US Bureau of Labor Statistics; McKinsey Global Institute

# A Over the last 3 years, 65% of US businesses have made operational improvements which involved reducing labor

## Over the past 3 years, has your company made changes to achieve the same output with fewer employees?




## If your company made changes, what changes did it make? (Pick up to 3)



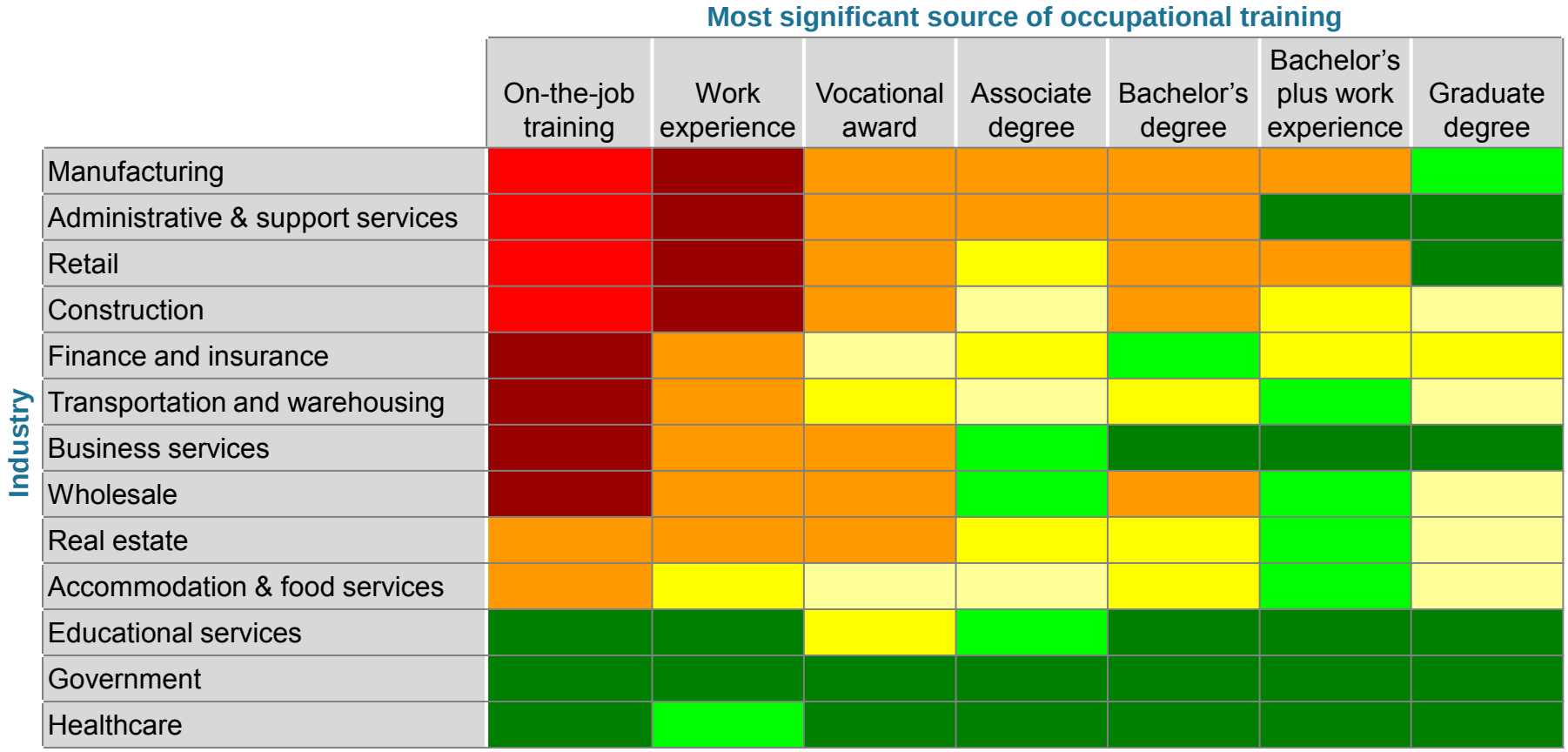

Source: McKinsey Global Institute US Jobs Survey, 2011

# A Low-skilled occupations suffered the highest job losses across all sectors

## Annual net employment change, 2007–09[1]

Thousands of jobs

- >500,000 job losses
- 100,000-500,000 job losses
- 10,000–100,000 job losses
- 1,000–10,000 job losses
- <1,000 job changes
- 1,000–10,000 job gains
- >10,000 job gains



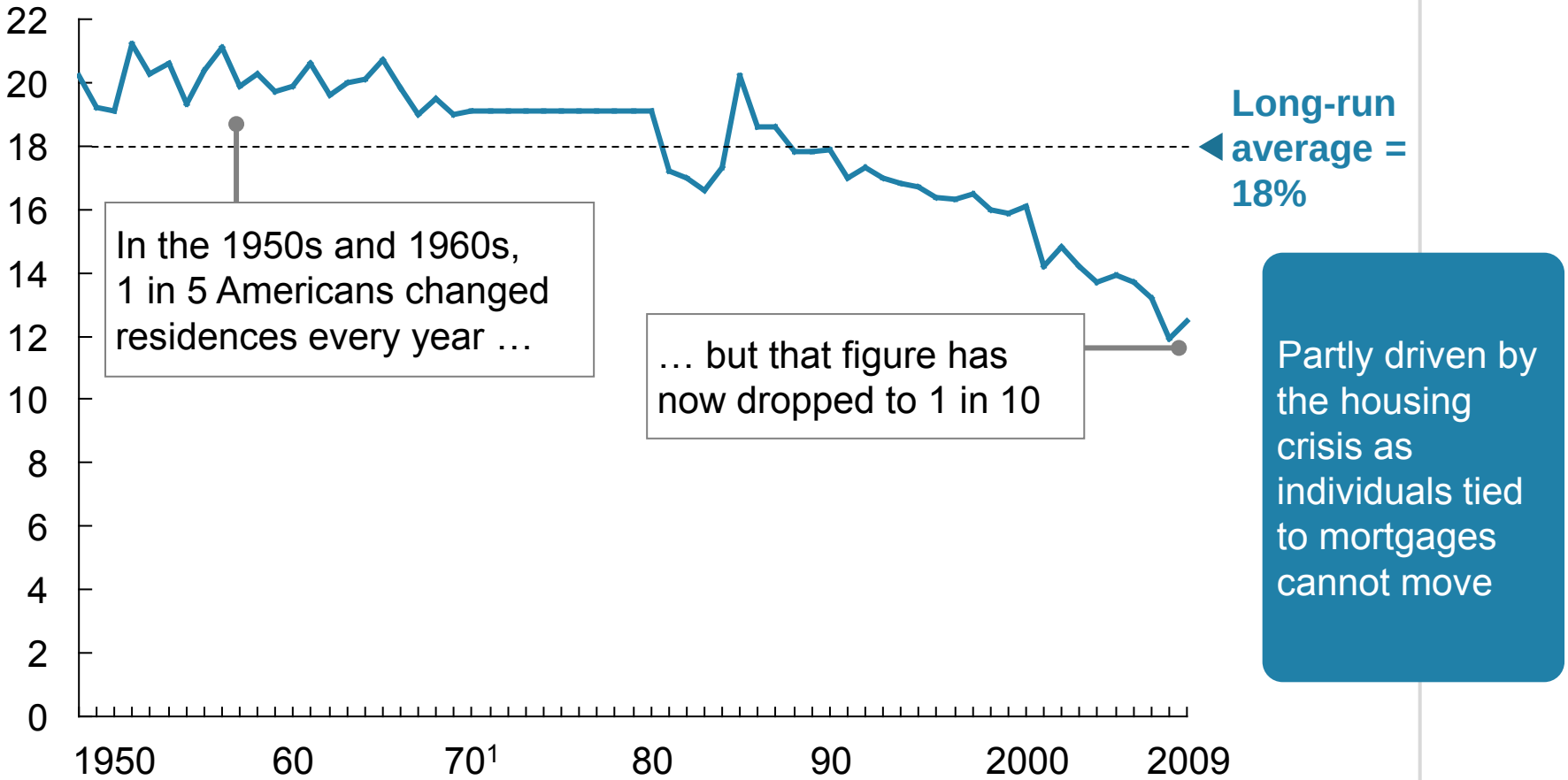

1 Calculated using US Bureau of Labor Statistics – Occupational Employment Statistics data, which do not include farm, self-employed, or new entrants to the labor market

Source: US Bureau of Labor Statistics; McKinsey Global Institute

# B Mobility in the US is at a 50-year low, reducing the flexibility of the labor supply to respond to economic shocks

## Annual domestic migration rate, 1948–2009

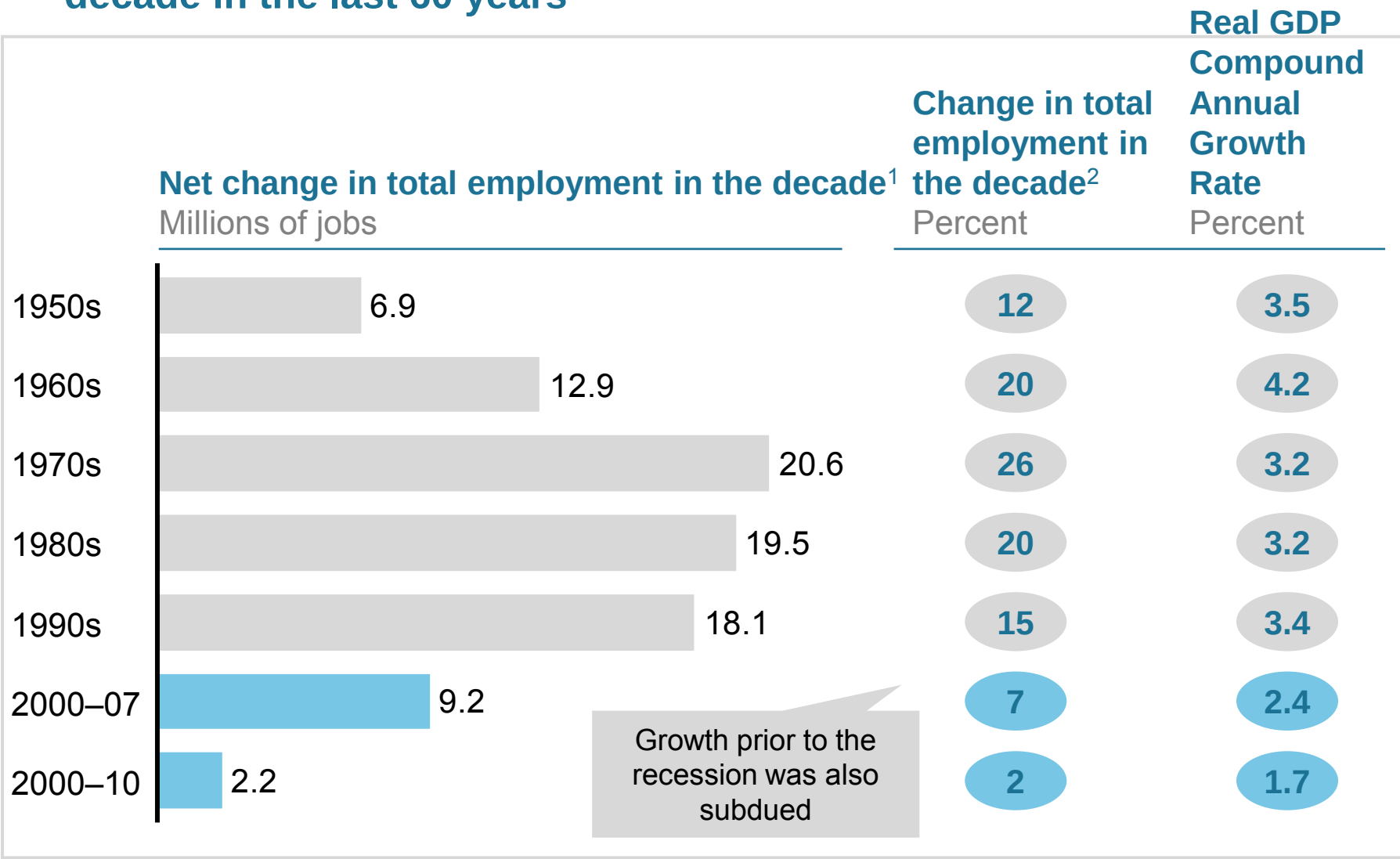
Percentage of residents who have changed addresses during the past year




1 Data from 1970–81 are interpolated due to data constraints

Source: US Bureau of Labor Statistics; McKinsey Global Institute

# C Job growth over the last 10 years was much more subdued than any decade in the last 60 years



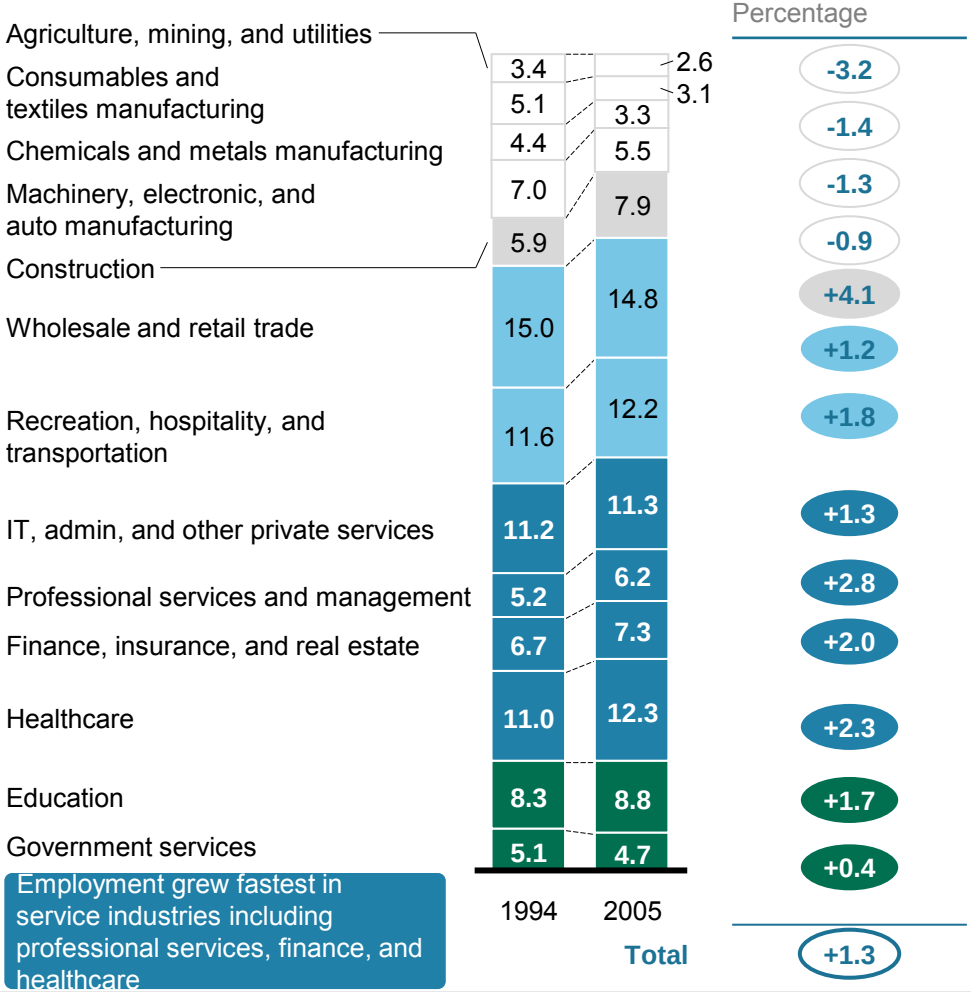

1 Total employment equals the number of all employed workers in the economy, including full-time, part-time, and self-employed
2 Percentage change in the number of employed from base year to the final year in that decade

Source: US Bureau of Economic Analysis; US Bureau of Labor Statistics; McKinsey Global Institute

# C Job opportunities continue to shift from manufacturing to services and towards management and professional occupations

## Total employment distribution by industry

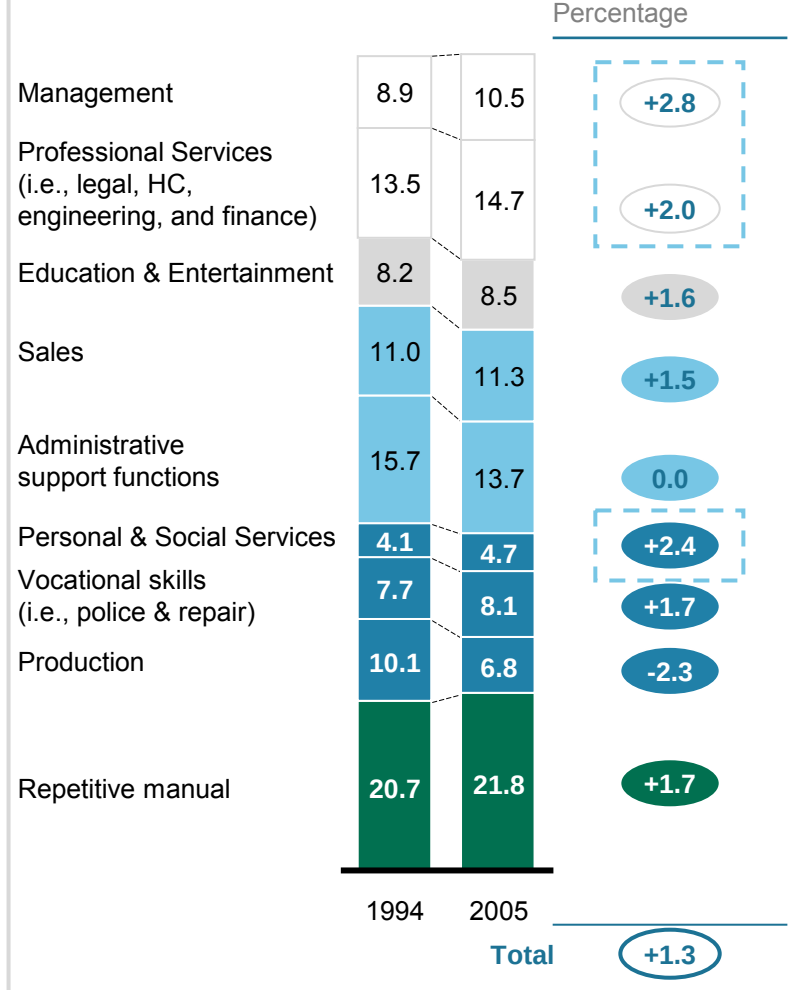
US., 1994–2005, percent




Employment grew fastest in service industries including professional services, finance, and healthcare

## Total employment distribution by occupation

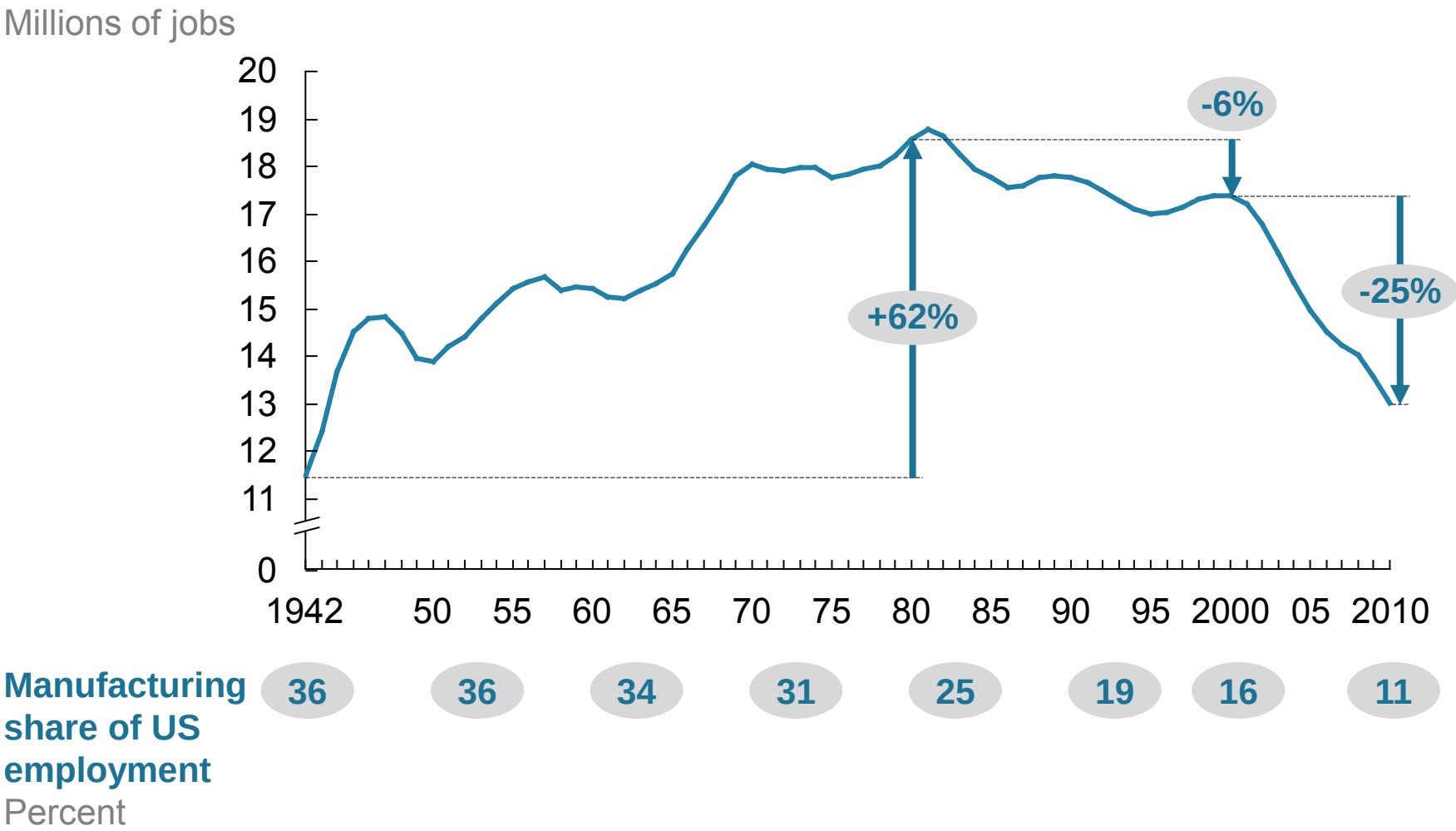
US, 1994–2005, percent




Source: CPS; BLS; McKinsey Global Institute

# C US manufacturing employment has been shrinking since 1980, but the pace dramatically accelerated after 2000

## Manufacturing employment, 1942–2010, 5-year moving average

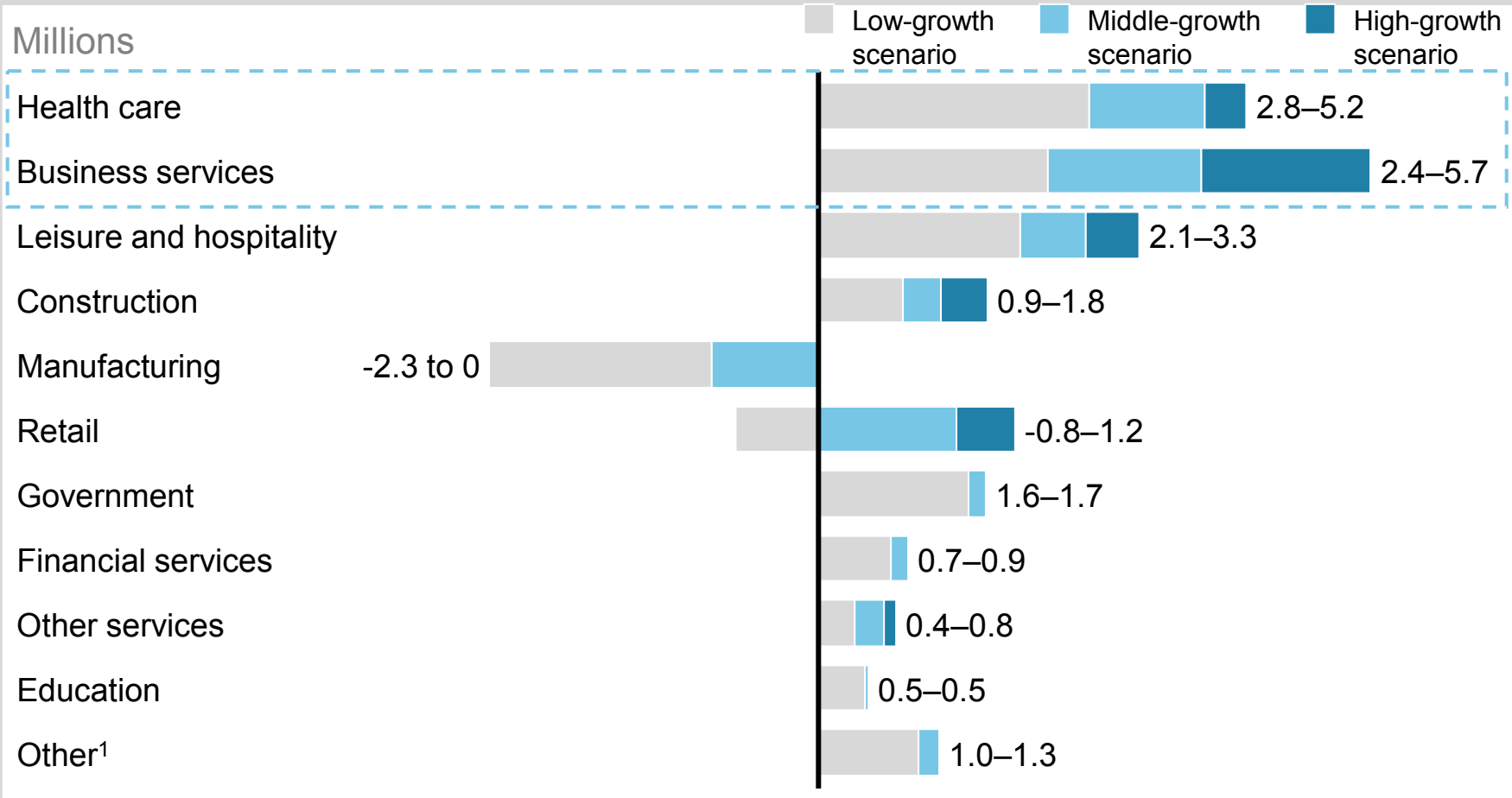



Source: US Bureau of Labor Statistics; National Bureau of Economic Research; McKinsey Global Institute

# C Job growth in service industries is projected to continue, with greatest potential in high-skill sectors

Growing high-skill sectors

## Jobs created by 2020



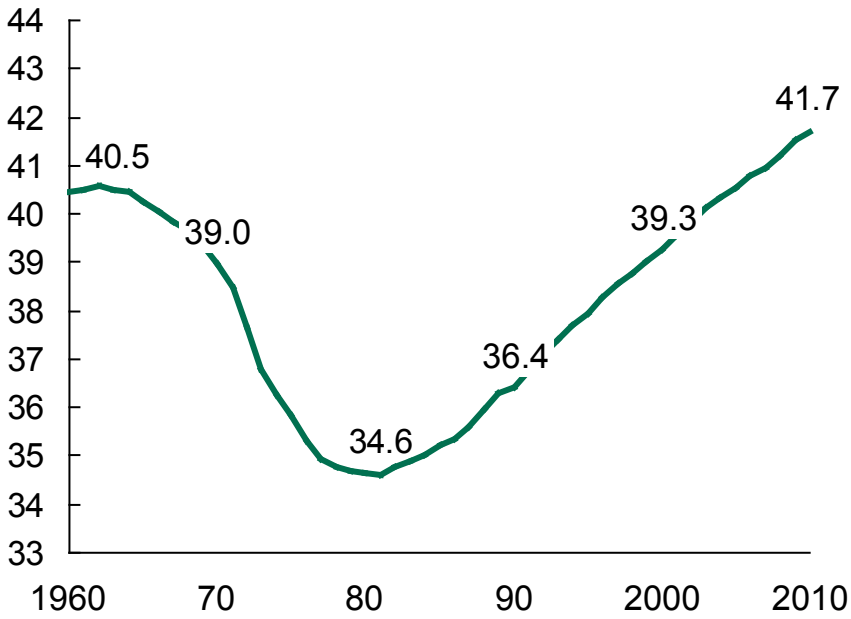

1 Other includes mining, utilities, wholesale trade, transportation and warehousing, information, self-employed, and agriculture

Source: Moody's Analytics; Global Insight; US Bureau of Labor Statistics; McKinsey Global Institute analysis

# D The workforce is aging rapidly, ~30% of workers are within 10 years of retirement

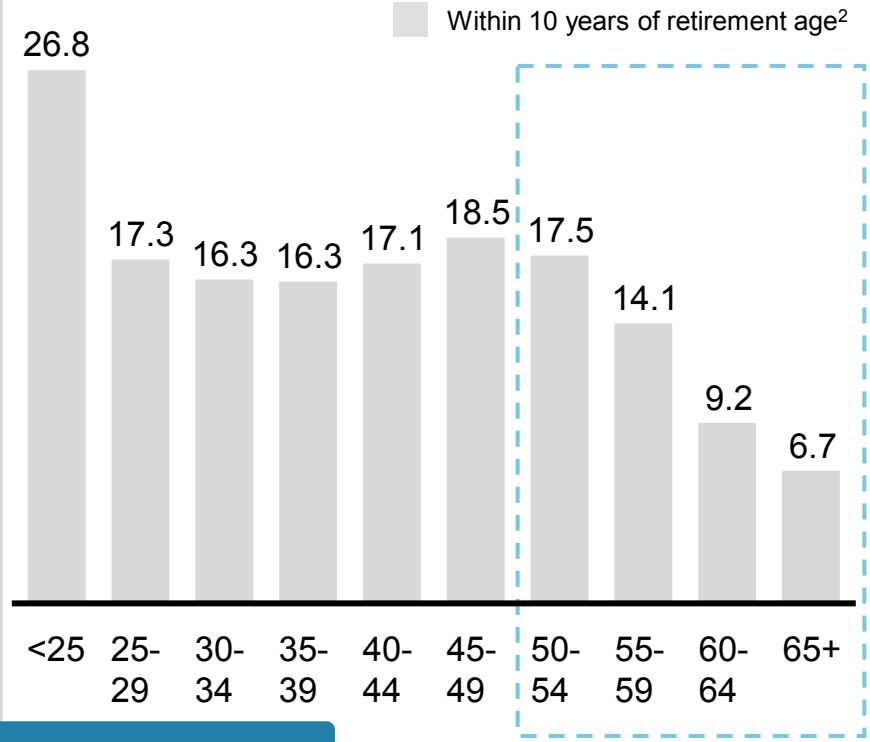
## The average age of the US workforce has increased ~20% since 1980 …

### US labor force median age
1960-2010




## … and ~30% of the US workforce could retire in the next 10 years

### US labor force age distribution
Million workers, 2010[1]



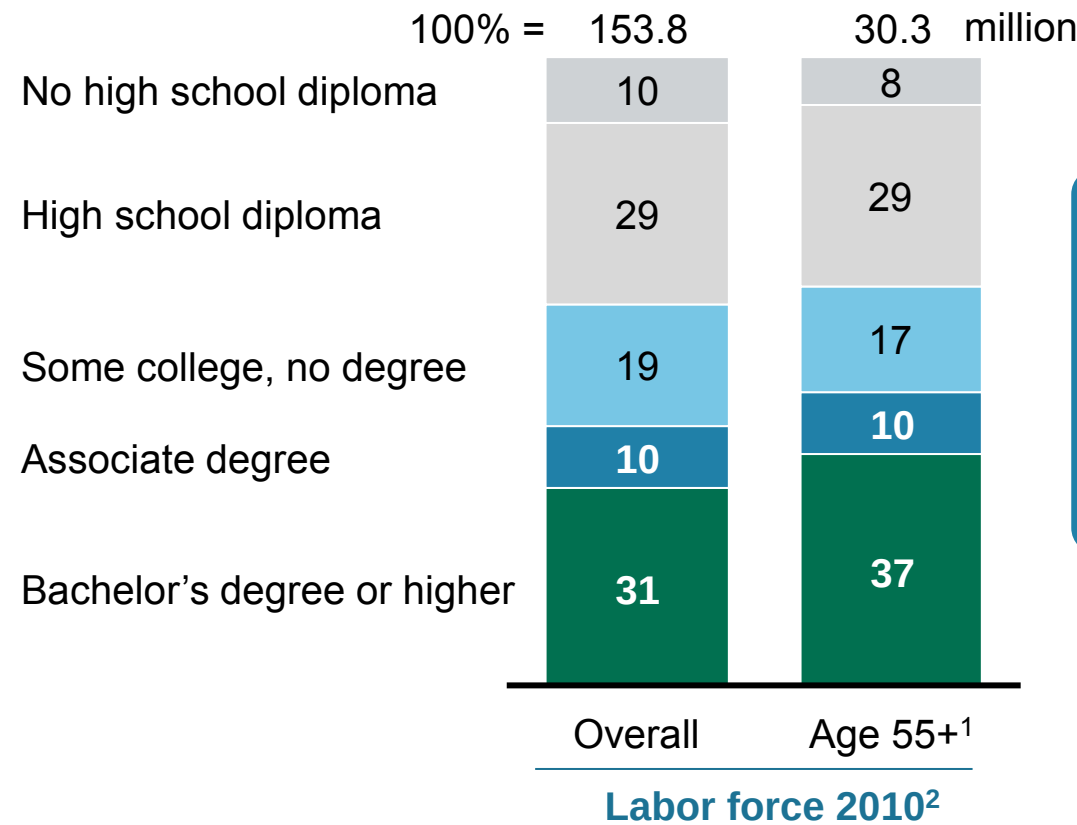

**25 million people are projected to leave the workforce between 2010 and 2025**

1 Early retirement age of 62 in the US
2 Members of the 50-54 category have been included as "within 10 years of retirement", since their age on birthday would be 51-56 in 2011

Source: US Census; Bureau of Labor Statistics; team analysis

# D Retiring workers have slightly higher educational attainment than the overall workforce, leaving the overall workforce less skilled

## Educational attainment of retirees vs. overall labor force[1]




**May contribute to growing talent gap as employers demand workers with higher education and management skills**

1 While overall education of 55+ population is lower than younger cohorts, the 55+ group left in the labor force today is more highly educated
2 Numbers may not sum due to rounding.

Source: US Bureau of Labor Statistics; McKinsey Global Institute

# Employment landscape

- Current and future trends

**E Growing talent and skills gap: matching employees to jobs**

1. **Inadequate education levels**
2. **Deficient content knowledge**

- Solutions trends: job creation

# E The US labor market currently faces gaps across 2 dimensions – education levels and content knowledge

## 1 Education levels

- Inadequate levels of educational attainment in the US workforce
- Programs working to close this gap are focusing on access issues, graduation rates, and placement after graduation

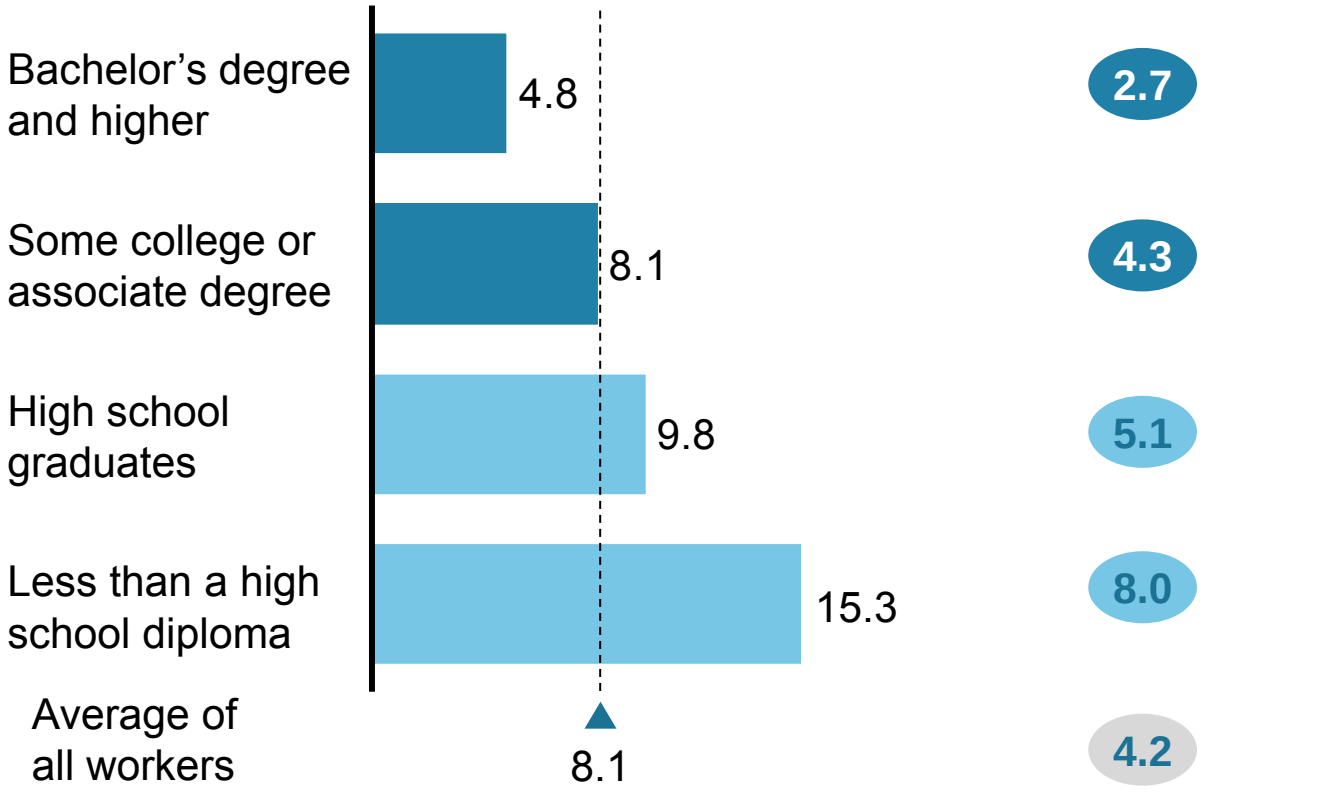
## 2 Content knowledge


- Employees are failing to acquire comprehensive skill sets, including
  - Soft skills
  - Specific job-related skills
- Programs working to close this gap are generally focusing on improving the curricula or delivery in educational institutions

Source: Expert interviews; team analysis

# E1 Workers with limited education are more likely to be unemployed than those with higher education degrees – this trend has grown since 2007

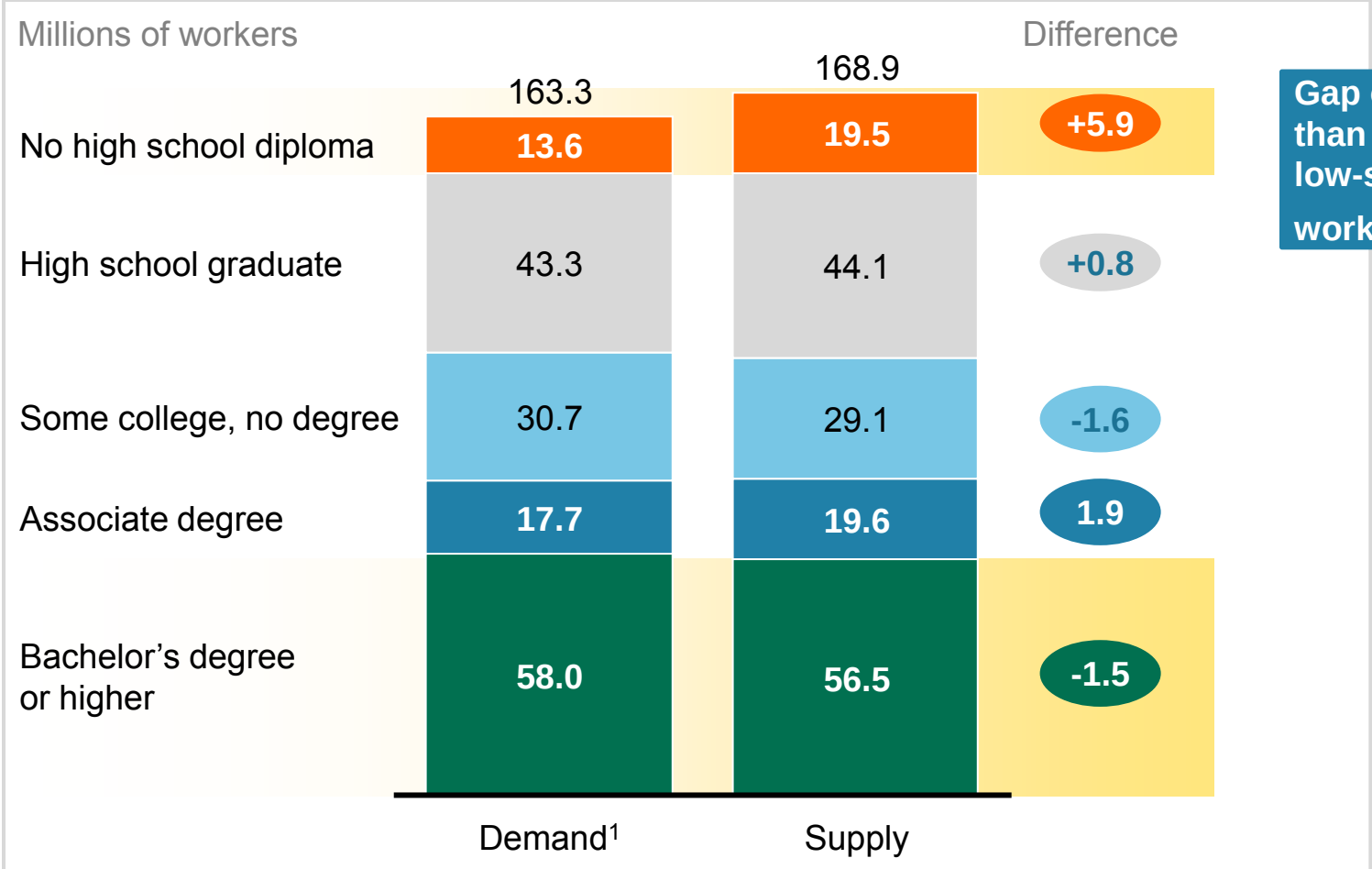
## Unemployment rate for workers 25 years and older




Source: BLS Current Population Survey; team analysis

# E1 Projections indicate there will be 1.5 million too few college graduates and 6.0-7.0 million too many low-skilled workers

## Demand and supply of jobs in 2020 (high growth projections)[1]




**Gap of more than 6 million low-skilled workers**

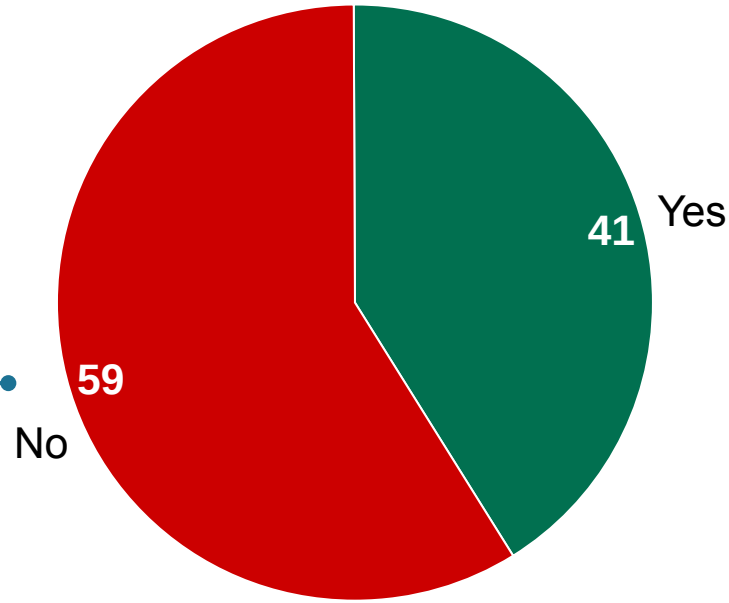
1 Labor demand from McKinsey Global Institute high job-growth scenario

Source: US Bureau of Labor Statistics; McKinsey Global Institute jobs report

# E2 Many employees are unsure of future skill expectations, and unaware of the impact of educational attainment on unemployment

## Q1. Do you know what skills will be required in the future and therefore whether training will pay off?

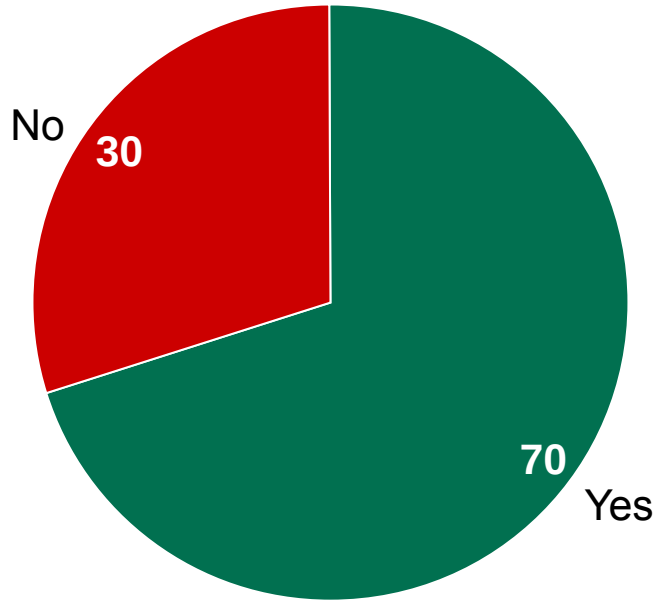
A1.




**A majority of people are unsure of what skills are needed for success**

## Q2. Do you believe the recession was "equal opportunity" – where workers with all levels of education were impacted equally?

A2.




**A majority of people are unaware of the link between unemployment and education[1]**

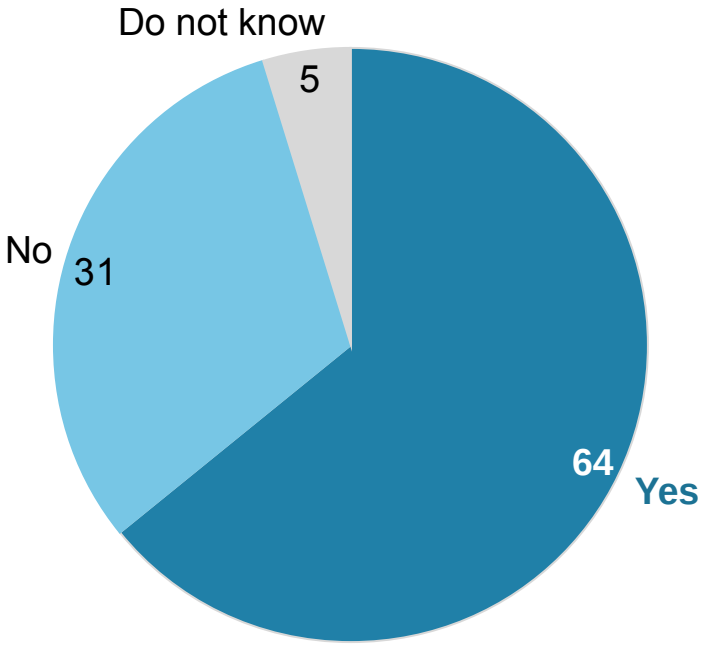
1 When in fact, rates of unemployment differ greatly by education level: At time of survey ~15% for less than high school diploma, ~10% for high school graduates; ~7% for associates degrees, and ~5% for bachelor or higher

Source: Business Roundtable "Survey of the American Worker" (2009); team analysis

# E2 Employers are finding it difficult to fill positions with qualified applicants – particularly in management and science/engineering

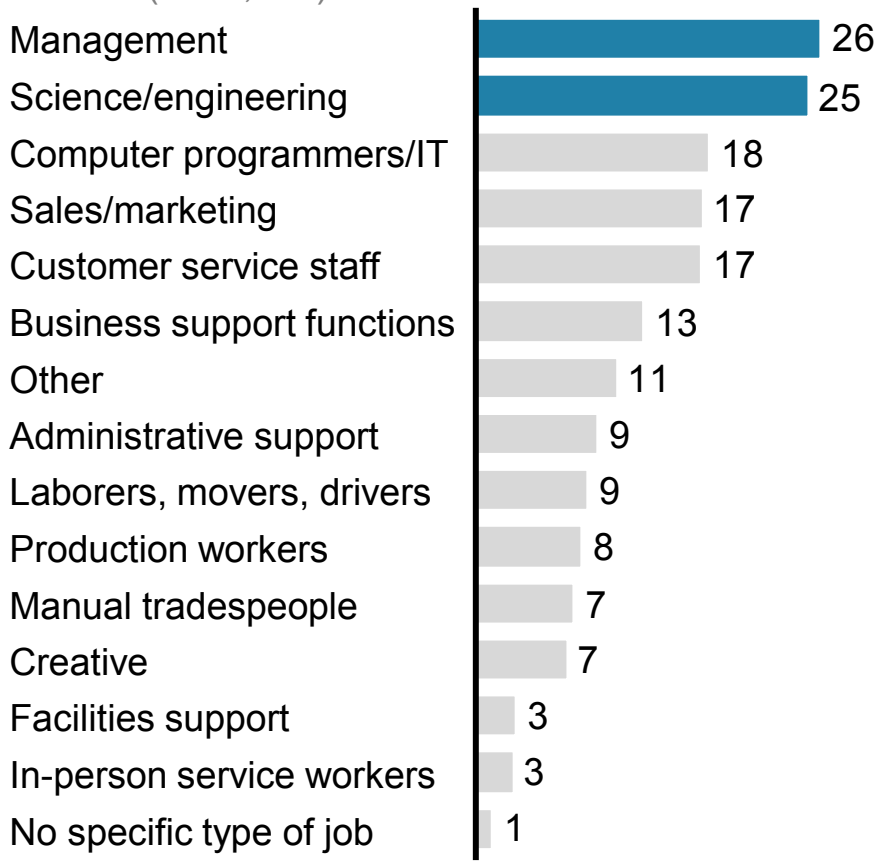
## Are there positions in your company for which you usually find it difficult to find qualified applicants?

Percent (n = 2,000)




## If positions are hard to fill, which ones? (Select up to 3)

Percent (n = 2,000)[1]




1 Numbers may not sum due to rounding.

Source: McKinsey Global Institute US Jobs Survey, 2011; McKinsey Global Institute analysis

# Job Services Australia demonstrates a successful scaled model of matching disadvantaged unemployed workers with employers using the private and public sectors

## Jobs Services Australia

- National employment services system designed to help address skill shortages and target disadvantaged job seekers
  - For job seekers, provides access training, skills development, and work experience
  - Provides free help to employers to find staff to meet business needs

## Outsourcing to the private and social sector

- Government contracted a range of private and nonprofit organizations to provide employment services in more than 2,000 locations
  - Providers initially selected for the network and allocated business through a competitive public tender process
  - Performance of local providers is rated by DEEWR[1] every 6 months, based on placing clients into work and keeping them employed for 13 and/or 26 weeks
  - Local providers work with employers, registered training organizations, government, community organizations to identify jobs opportunities and provide training

## Success rate (for year 2010-11)

- More than 1.6 million referrals were made during the year
- Placed ~478,000 in jobs (30% above previous year) and currently assisting nearly 750,000 job seekers
- Recorded outcomes for long-term unemployed job seekers as 46.7% and 42.3% for job seekers with disability

## Assistance towards underprivileged Australians

Underprivileged are provided extra support and assistance based on individual needs

- **Recently unemployed**
  - Conducts programs and services to quickly reconnect with employment opportunities. These programs offer immediate access to support, including job search training and assistance
  - Structural Adjustment Programs are available for workers made redundant from eligible companies (e.g., automotive)
- **Young people**
  - Targeted support including resume writing, job searching
- **Parents with careers**
  - Both usual job assistance and access to suitable child care
- **Over 50s**
  - Training or re-skilling in areas where skills are in demand, support to start own business, participate in a broader range of work experience, including community-based 'Work for Dole' or Green Corps activities
- **Disabilities**
  - Government has contracted Disability Employment Services providers in 1900+ sites
- **Indigenous Australians**
  - Work with the Community Development and Employment Projects (CDEP), the Indigenous Employment Program (IEP)



1 DEEWR- Department of Education, Employment and Workplace Relations
Source: Job Services Australia web site, 2010–11 DEEWR Annual Report

# Employment landscape

## Current and future trends

- Changing employment landscape
- Growing talent and skills gap: matching employees to jobs

### F Solutions cities are pursuing: job creation

1. Spark
2. Speed
2. Share

# To revive job creation, US cities must make progress on 3 dimensions

## SPARK

Encourage innovation, new company creation, and the scaling up of new industries across US cities

## SPEED

Remove impediments and regulations that stifle business investment and use appropriate incentives

## SHARE

Allow US cities to capture a greater share of global and regional trade to create more US jobs

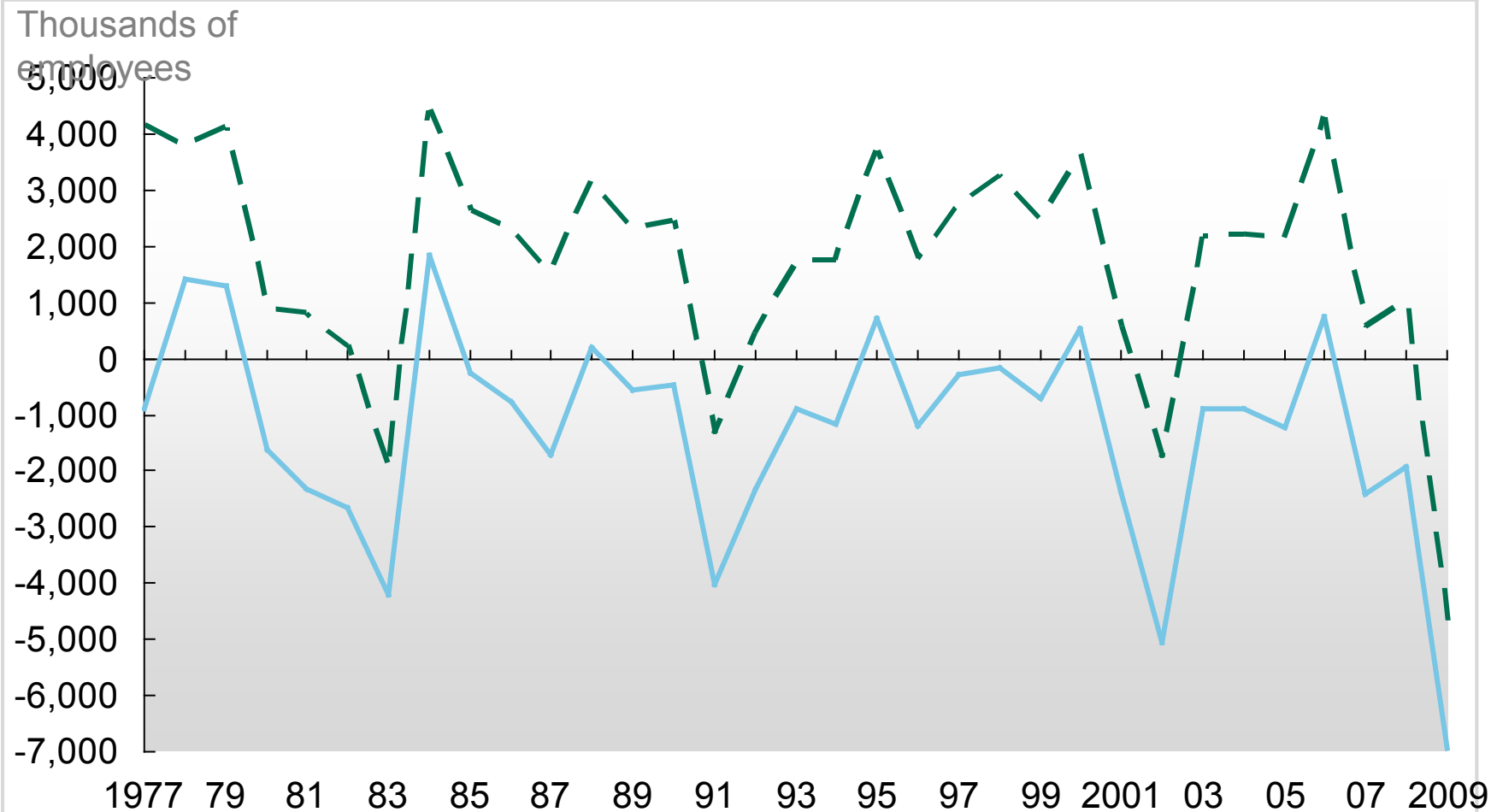
Source: McKinsey Global Institute

# F1 Cities that successfully spark new business growth will benefit from increased job creation

Entire economy without start-ups[1]

Entire economy

## Historical net job creation in US business



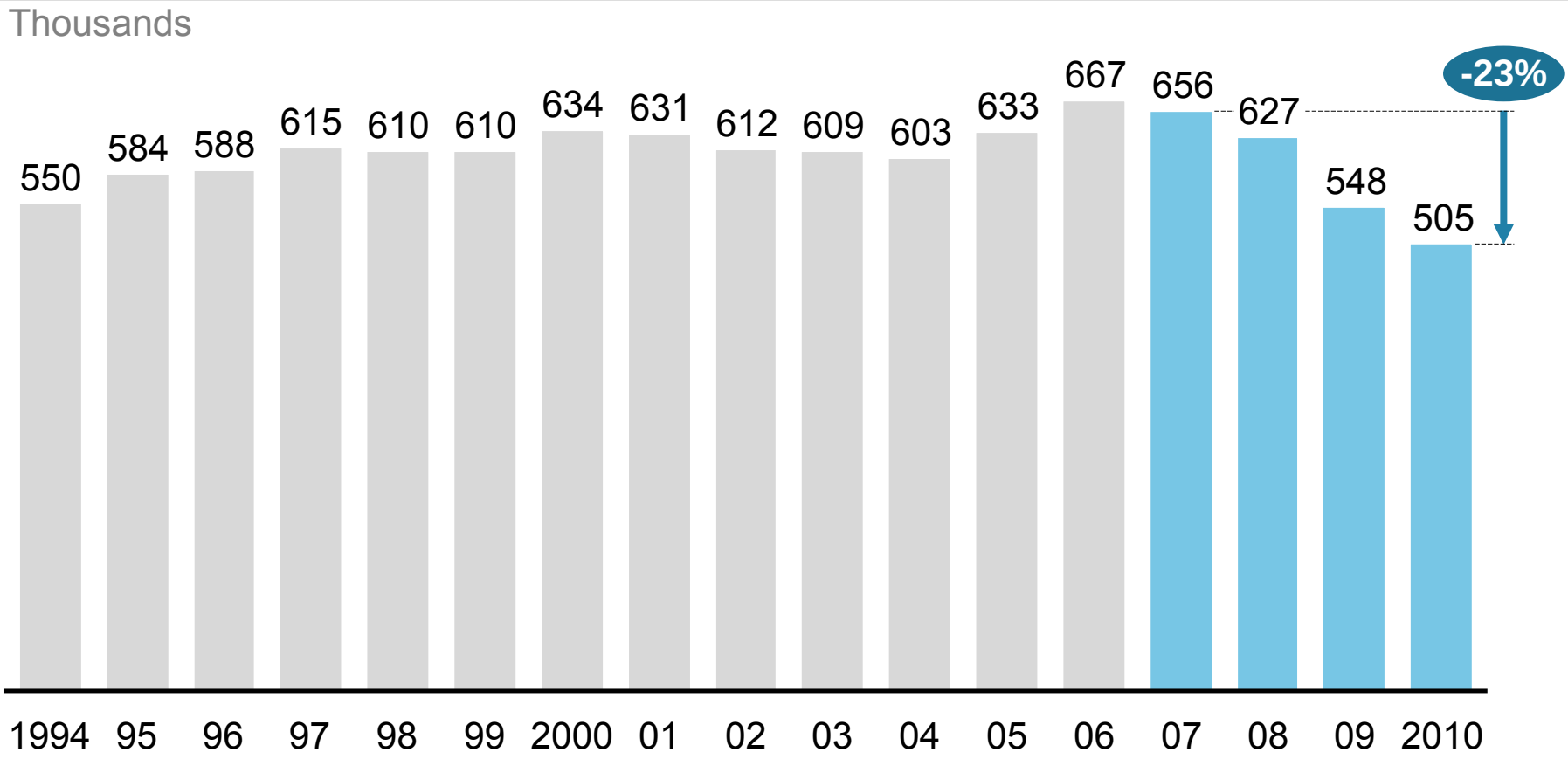

1 Startups refer to new businesses, i.e. firms less than 1 year old

Source: BDS, Kauffman; team analysis

# F1 During the recession, the number of new businesses launched declined by 23% – reducing job creation

Effect of the recession

## Change in number of private-sector businesses launched every year, March 1993 – March 2010[1]

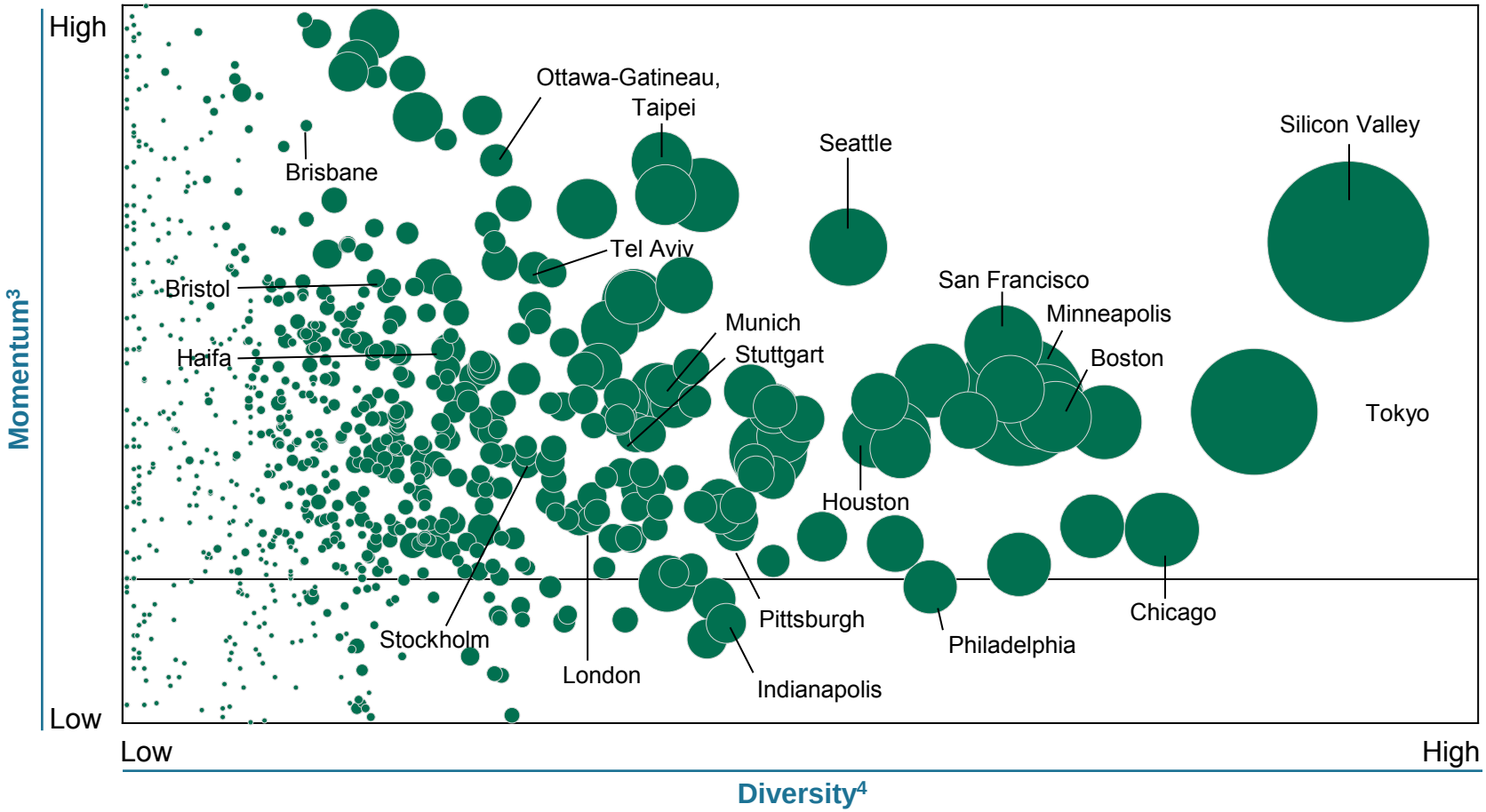



1 Calculated using US Bureau of Labor Statistics, Business Employment Dynamics data set – the annual number indicates the number of businesses less than 1 year old that were in existence in March of that year

Source: US Bureau of Labor Statistics; McKinsey Global Institute

# F1 Cities can distinguish themselves as innovation centers to spur job creation and investment

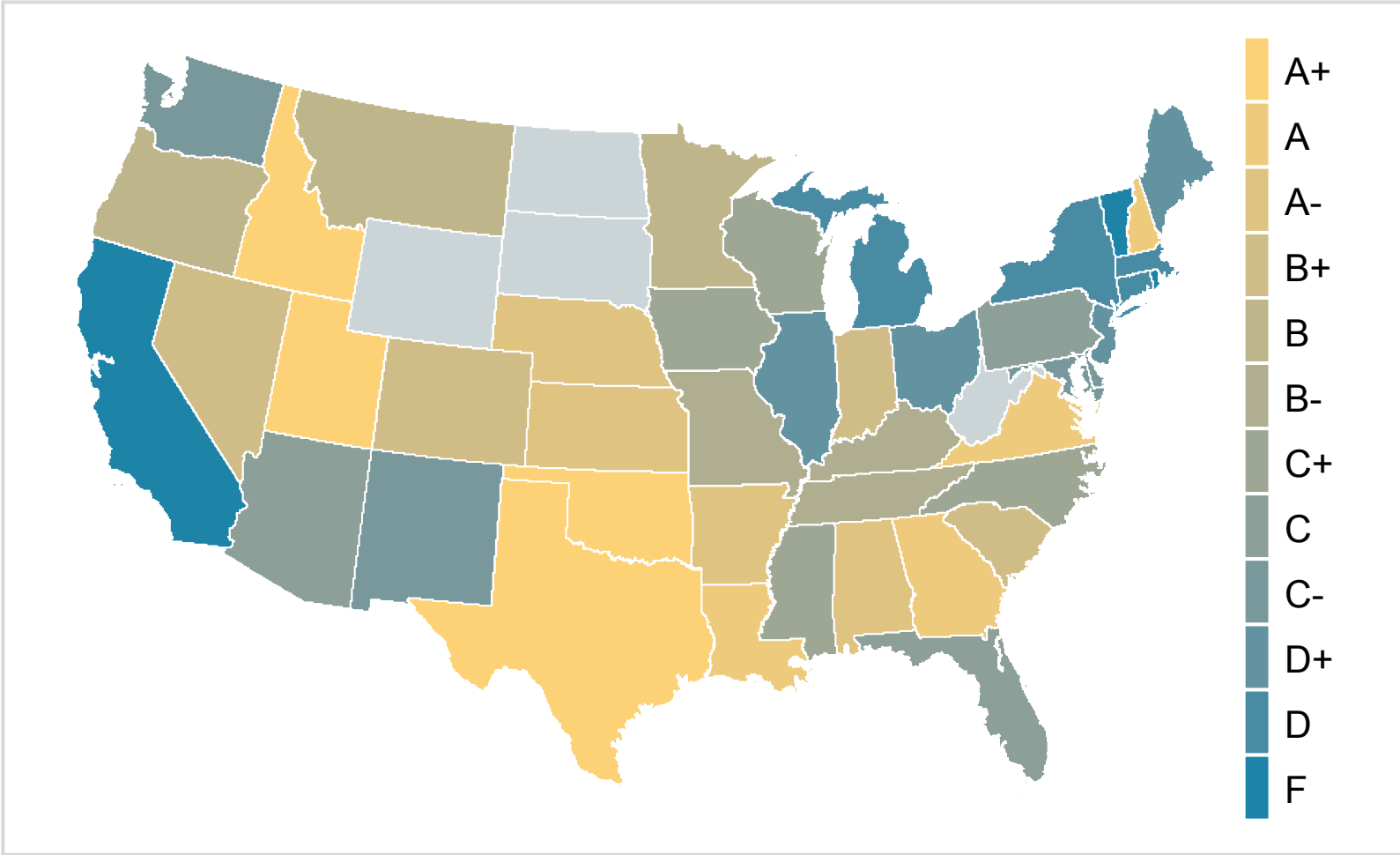
Patents granted[1], 1997 – 2006




1 Overall patents granted by US patent and trademark office, by inventor origin; partial ranking of selected cities
2 Number granted in 2006
3 Momentum is the rate of growth of patents per year in a archetype from 1997 to 2006
4 Diversity measures the number of separate firms and industry sectors in a archetype in 2006

Source: Juan Alcacer (HBS); McKinsey analysis 776135

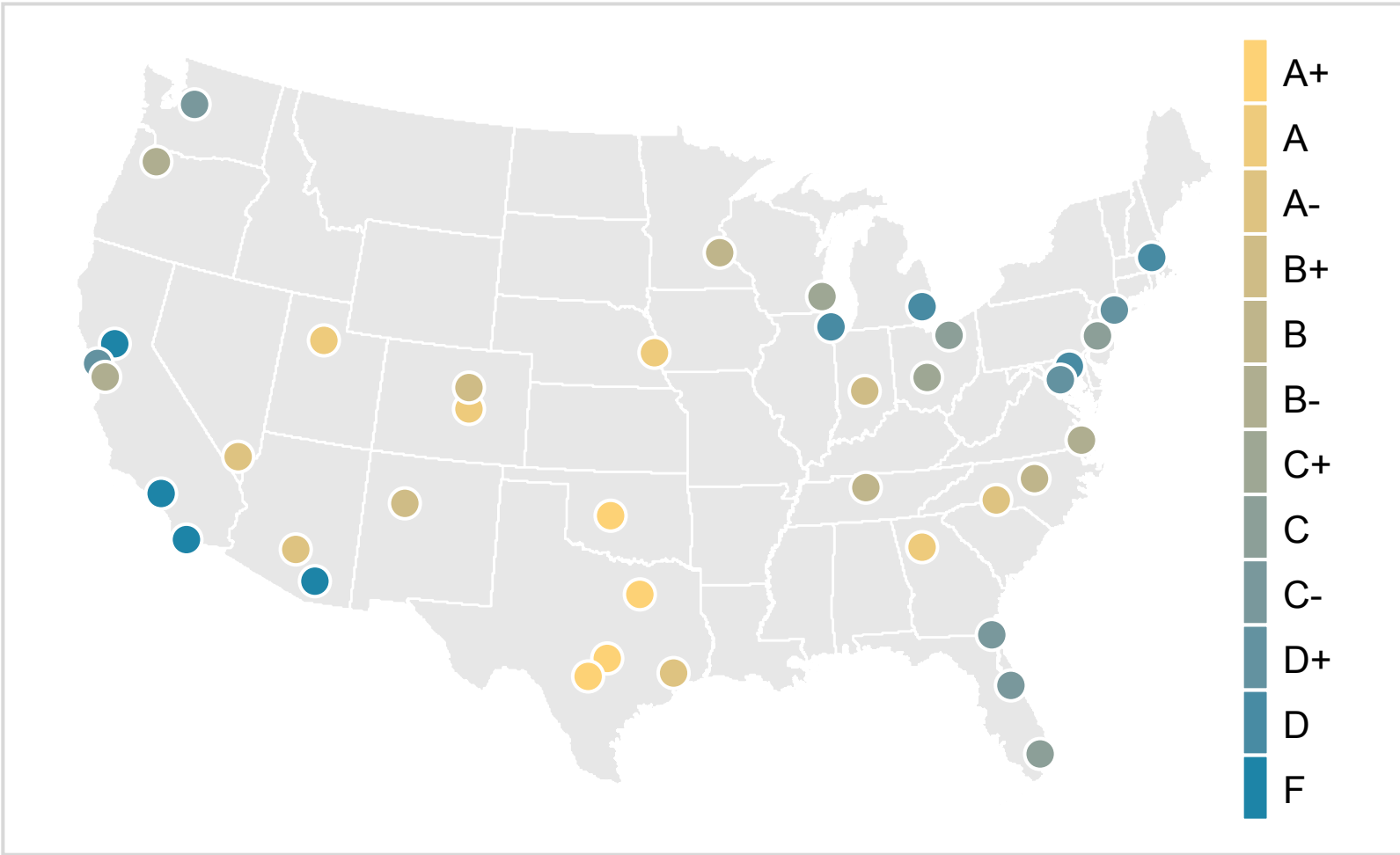
# F1 Friendliness to start-ups and small businesses varies across the US states[1] (1/2)




1 Based on – ease of starting a business, hiring costs, regulations, health and safety, employment, labor and hiring, tax code, licensing, environmental, zoning, training programs; networking programs; current economic health; optimism about future; growth rate last year

Source: Kauffman Foundation and Thumbtack.com; team analysis

# F1 Friendliness to start-ups and small businesses varies across the US cities[1] (2/2)

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Source: Kauffman foundation and thumbtack.com; team analysis

# Partnerships for a Competitive Workforce addresses employee matching systematically

PARTNERS FOR A COMPETITIVE WORKFORCE

## Basic facts

- Partnership in Ohio, Kentucky and Indiana tri-state region focused on meeting employer demand by growing the skills of current and future workforce
- Since 2008, served more than 5,000 individuals across three career pathway partnerships. Of that total, we served over 4,400 jobseekers with 80%+ completing training and earning over 3,200 credentials and an estimated 60-70% job placement rate. We also helped nearly 850 incumbent workers develop their skills with 80%+ completing training and earning over 600 credentials

## Size (FTEs/budget)

- Since 2008, PCW has raised more than $3.8 million in public and private funds from local, state and national sources, including $8.4 million in state and federal grants, and $11.9 million in aligned training funds from the regions' public workforce system

## Mission

- Meet employer demand by growing the skills of our current and future workforce
- By 2020, 90 percent of the labor force will be gainfully employed

## Governance

- Partner Council members include U.S. Bank, JPMorgan Chase, Urban League of Greater Cincinnati. Cincinnati Works
- Partners include businesses, workforce investment boards, chambers of commerce, secondary and post-secondary educational institutions, service providers and philanthropic funders (150 in total)

## Details

- **Creation of the Employers First Regional Workforce Network**
  - Provides a streamlined approach to deliver workforce solutions in response to employer needs. Includes Training Portal to assist regional employers in locating training providers and local college and university graduates quickly and easily
- **Creation of Employer-Driven Career Pathways in Priority Industries**
  - The Health Careers Collaborative of Greater Cincinnati, led by four hospital systems, has been developing skilled healthcare workers for over ten years through career pathway training for frontline workers and jobseekers. Based on this success, sector partnerships in advanced manufacturing and construction have been developed
- **Collecting Common Data**
  - Created a common, region-wide workforce data collection and reporting system to track results and improve performance. To date, approximately 50 public and nonprofit agencies are utilizing the system.

# F2 US cities lag behind other countries and cities in streamlining regulatory approval processes for business

| On… | US ranks | Behind |
|---|---|---|
| Starting a business | 13th | Macedonia and Puerto Rico |
| Dealing with construction permits | 17th | Thailand |
| Registering property | 16th | Lithuania |

- By streamlining regulatory approval processes, cities can encourage greater investment and thereby spur job creation
- Cities that apply "lean" practices to their approvals processes (e.g., zoning approvals) can create a competitive advantage in job creation

Source: World Bank's Doing Business

# F2 US cities can use lean management techniques to fast track regulatory approvals

## Cities' regulatory approval process


- Segment project submissions by importance to increase **overall speed and efficiency**
- Prioritize and fast track missions critical and strategic projects (e.g., critical infrastructure, renewable energy,)
- Dedicate resources and expedite work flow (e.g., delivery units)

- Designate clear roles and accountabilities to **ensure time-bound outcomes**
- Empower project sponsor or planning authority to set timelines and drive decisions
- Establish single point of accountability to ensure outcomes

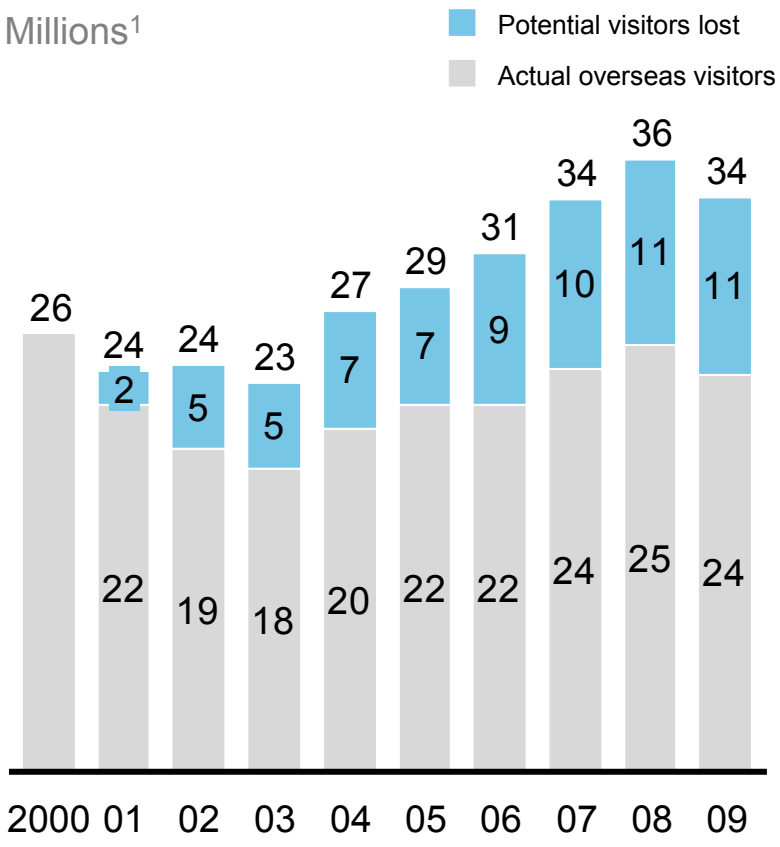
- Facilitate a one-stop-shop permitting process to **lower the applicant's burden and reduce red-tape**
- Integrate approach across all project elements (planning to permitting) to minimize duplication
- Harmonize across agencies (e.g., fish and wildlife, forests, water quality, US Army Corps)
- Standardize forms and evaluation requirements across jurisdictions

- Increase public trans-parency on process to **enhance performance and increase business certainty**
- Specify and publicly disseminate process requirements including time frames
- Introduce electronic application interfaces
- Share real-time data on permit applications and approvals

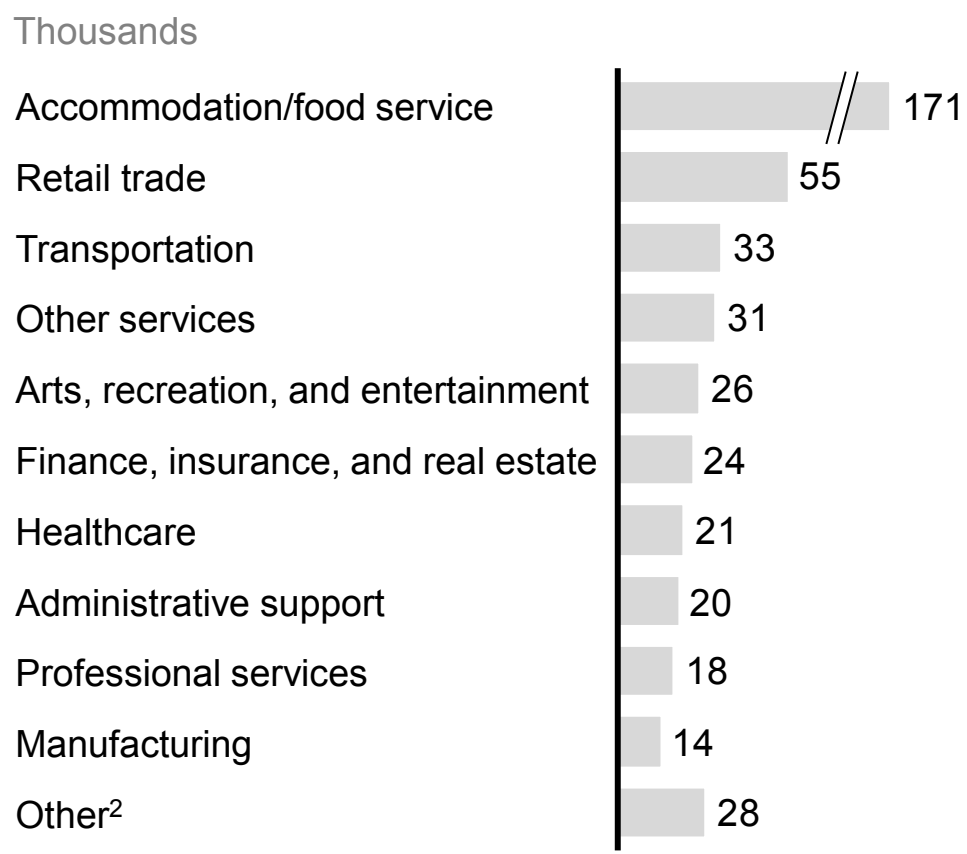
Source: Operations practice; expert interviews; team analysis

# F3 Cities can create jobs by capturing a greater share of global trade and travel – decline in tourists may have cost the US 400,000 jobs

## Number of overseas visitors in the US



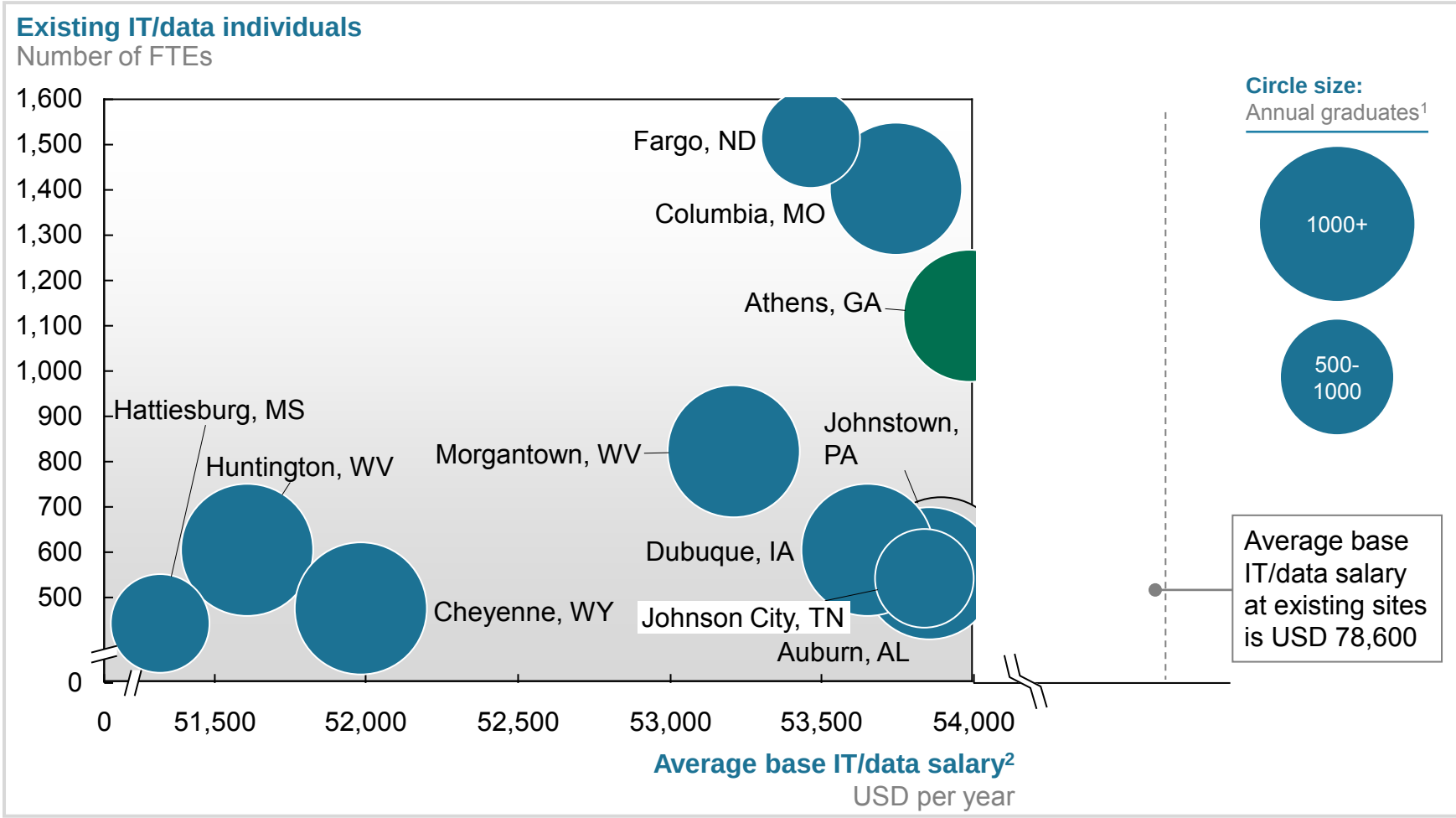

## Estimated jobs lost from shrinking international travel market share




1 Numbers may not sum due to rounding
2 Other includes agriculture, construction, information, management, and education

Source: US Travel Association; Oxford Economics; McKinsey Global Institute

# F3 Smaller cities with significant and cost-competitive IT talent sources could create IT archetypes of excellence to capture a greater market share




1 Annual graduates with IT, Computer science, or engineering bachelor, associates, or vocational degrees from institutions within 100 miles
2 Salary only, not fully loaded

Source: ERI salary data; NCES; BLS; US Bureau of Census CODB Index; team analysis

# F3 Cities in the southeast US have successfully captured a greater share of the foreign automaker manufacturing jobs

## Foreign automakers have primarily targeted Southeast US


**Every job in auto production supports 5 other jobs in the economy**

## Examples of competitive advantage that make Southeastern states particularly attractive

- **Availability of talent**
  - **BMW**: access to nearby Clemson University engineering graduates
  - **Nissan**: access to graduates from 19 universities in/around Nashville
- **Proximity to innovation**
  - **Kia**: partnership with Georgia Center of Innovation for Manufacturing to help lower production costs
  - **BMW**: proximity to NASCAR's testing/performance facilities
- **Transportation**
  - **Kia**: access to fastest growing container port in US (Savannah) and high traffic airport (Atlanta)
- **Low input costs**
  - **All manufacturers**: large tracts of undeveloped land, low utility costs, and availability of low cost, non-unionized workforce

**Additionally, financial incentives offered by states helped "close" these location decisions, e.g.,**

- **Mississippi**: USD 363 million in incentives including site preparation, training, infrastructure improvement, etc., for Nissan
- **Georgia**: USD 300 million in tax abatement and incentives including customized training through state-run "Quick Start" program for Kia Motors
- **Alabama**: USD 253 million total incentive package for Mercedes-Benz

Source: Press search; Economic Policy Institute; team analysis

# Contents

# Several trends are emerging in housing across US cities

| Trends | Description |
|---|---|
| A Housing market changes | ▪ **Weak ownership market –** there is weak demand and an oversupply of homes that have led to a decline in home values<br>– **Weak demand –** higher unemployment (8.2%), stagnating wages[1], damaged credit scores, and changing demographics have reduced demand for home ownership<br>– **Oversupply –** as owners are forced to sell because of negative equity or move to rental homes, there is an oversupply of single-family homes<br>▪ **Tightening rental market –** renters are experiencing price pressure on rental stock<br>– **Increased demand** as people move away from home ownership<br>– **Undersupply** of rental homes, especially for low-income city residents (e.g., multifamily home production is at the lowest it has been in 17 years) |
| B Economic effects | ▪ **Decreased investment and consumption –** decreased home values have reduced the use of housing equity for investment and to drive consumption. Real net household wealth plunged USD 12.4 trillion and decline in home equity accounted for 61% of the drop<br>▪ **Negative effect on employment –** labor mobility is at its lowest level since 1990 as individuals in negative equity are tied to their mortgages, exacerbating the spatial mismatch of jobs and employment<br>▪ **Depressed particular cities and neighborhoods –** reduced home values have depressed some areas which struggle to attract business, investment, and lack in city services, harming community |
| C Low-income residents | ▪ **Market changes –** low-income residents face highest foreclosure rates (7.5% in high foreclosure states) and demand for affordable housing is rising<br>▪ **Economic changes –** home ownership rates have fallen, decreasing wealth base (e.g., median value of homes fell 20% in real terms) |

1 US productivity grew by 62.5% from 1989 to 2010, far more than real hourly wages for both private sector and state/local government workers, which grew 12% in the same period

Source: Expert interviews; team analysis

# Housing

## Current and future trends

**A** **Housing market**

- **Changes in preference**
- **Changes in supply and demand**

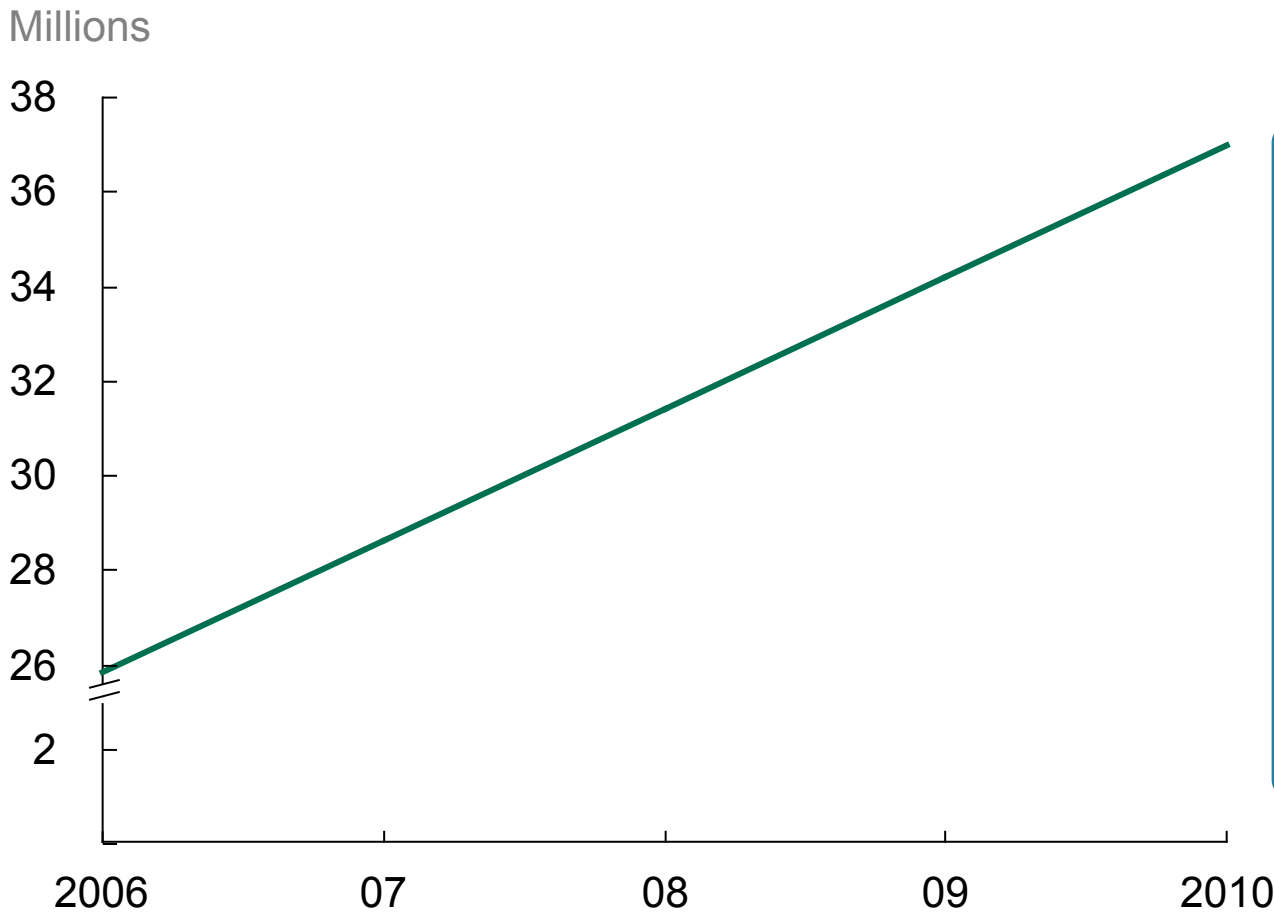
**B** Reduced home values have created negative economic effects for particular cities

**C** Low-income residents face difficult housing conditions

## Solutions cities are pursuing

# A US is experiencing a large growth in the rental market

## New rental households




- The number of renter households **jumped by 692,000 annually**, while the number of owner households fell on by 201,000 annually
- At the same time, new **multifamily (rental) home production has lagged**. – with production at the lowest level in 17 years



Source: Census of home construction; HUD; interview with Sarah Wartell

# A Fewer renters are moving into home ownership, and more owners have turned to renting

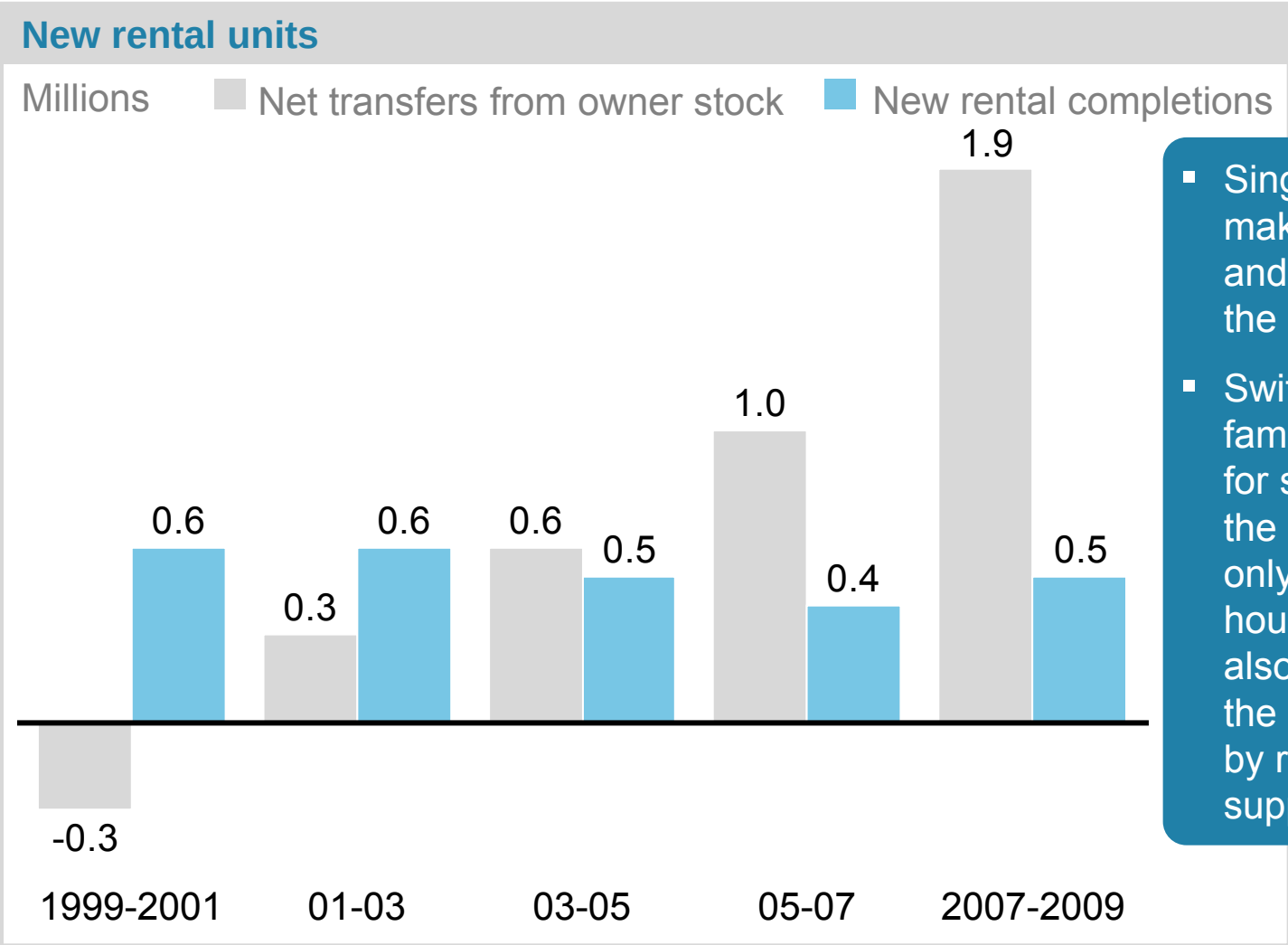
## Household moves per year


- Fewer younger renters are now moving to homeownership, and more older homeowners are becoming renters
- This is expected to continue



Source: Joint Center for Housing Studies of Harvard University, tabulations of US Census Bureau; team analysis

# A Conversion of owner-occupied units has contributed an increasing share of rental stock growth over the past decade




- Single-family homes make up a significant and growing share of the stock
- Switching of single-family units from the for sale inventory to the rental market not only provides needed housing for renters, but also helps to stabilize the homeowner market by reducing excess supply



Note: New rental completions include both single-family and multifamily units

Source: JCHS tabulations of US Census Bureau; Census of Construction and American Housing Surveys; team analysis

# A Despite the declines, a majority of younger Americans still prefer to own their homes

## Households under 35 remain optimistic about ownership

According to the Fannie Mae National Housing Survey for the first quarter of 2011

- **65%** responded that "now is a good time to buy a house"
- **62%** believed that "owning a home is a safe investment"
- **57%** viewed it as an "investment with a lot of potential"

## Most common reasons cited for buying homes are nonfinancial, including:

- Viewing it as a good place to raise and educate children

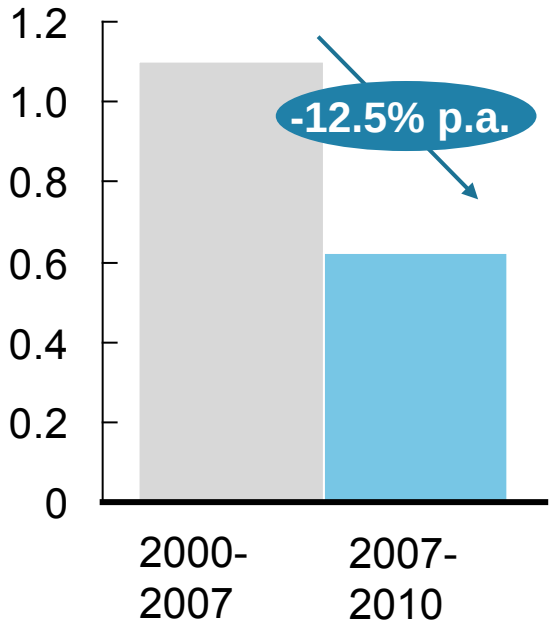
- Creating feelings of safety and greater control over one's living environment

Source: Fannie Mae National Housing Survey, 2011; team analysis

# A Average annual growth in the number of persons looking to buy homes sharply declined in 2007-10

## Household growth rapidly declined in the late 2000s

Average annual household growth[1]
Millions




- Key drivers of this decline include:
  - Lower household formation rates among young adults
  - Slowed growth in the foreign-born population during the 2000s as immigration stalled
  - Potential homeowners are choosing to rent
- As older baby boomers are expected to downsize over the next 10 years, 3.8 million households may be changing homes

1 Household growth is defined by the number of new owners in the market. Estimates exclude population that is not in the labor force; average annual growth in the American Community Survey is based on 2007-09 period

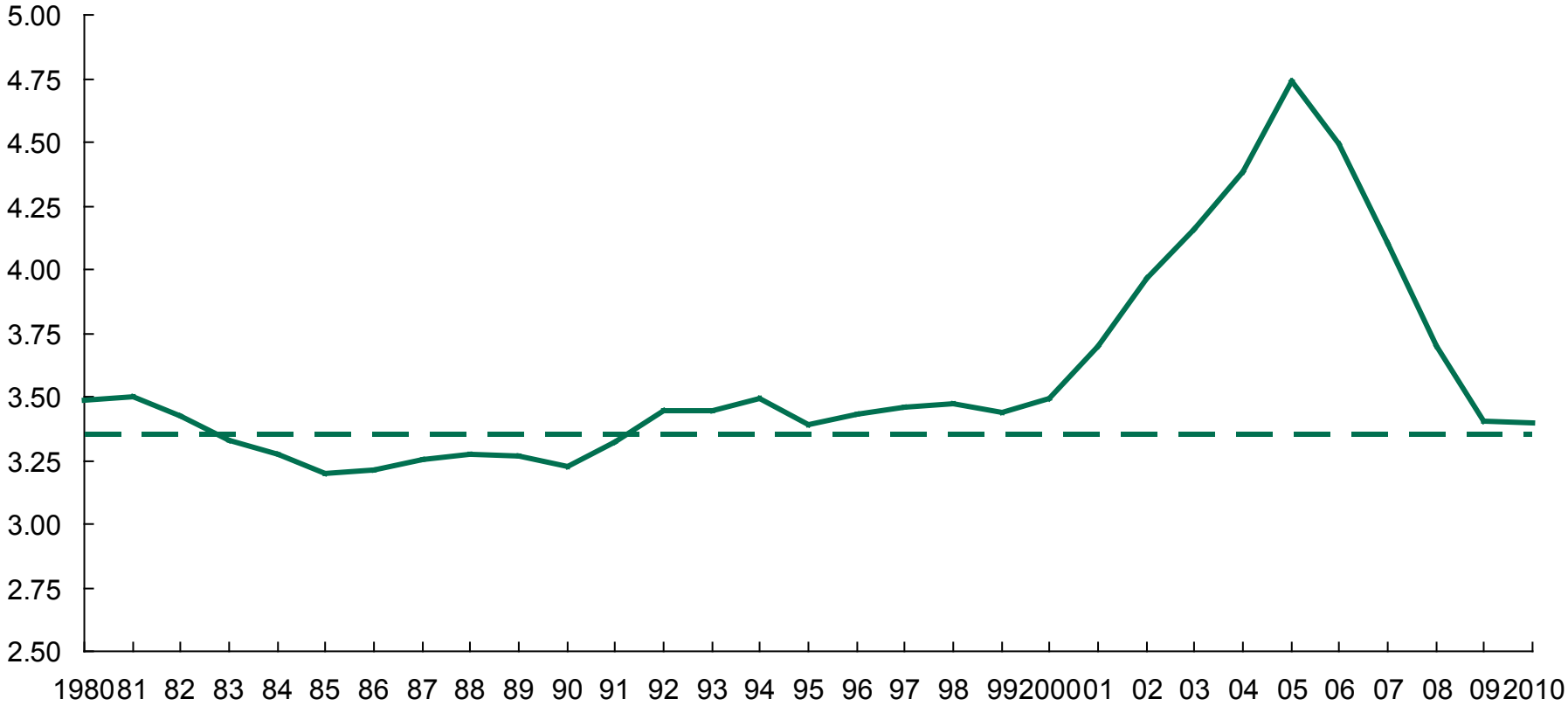
Source: JCHS tabulations of US Census Bureau; 2010 Current Population Survey; American Community Surveys; Current Population Surveys; and Housing Vacancy Surveys

# A Home affordability has returned to 1980-2000 average levels

1980-2000 average
Current ratio

## The national median price-to-income ratio has returned to its long-run average

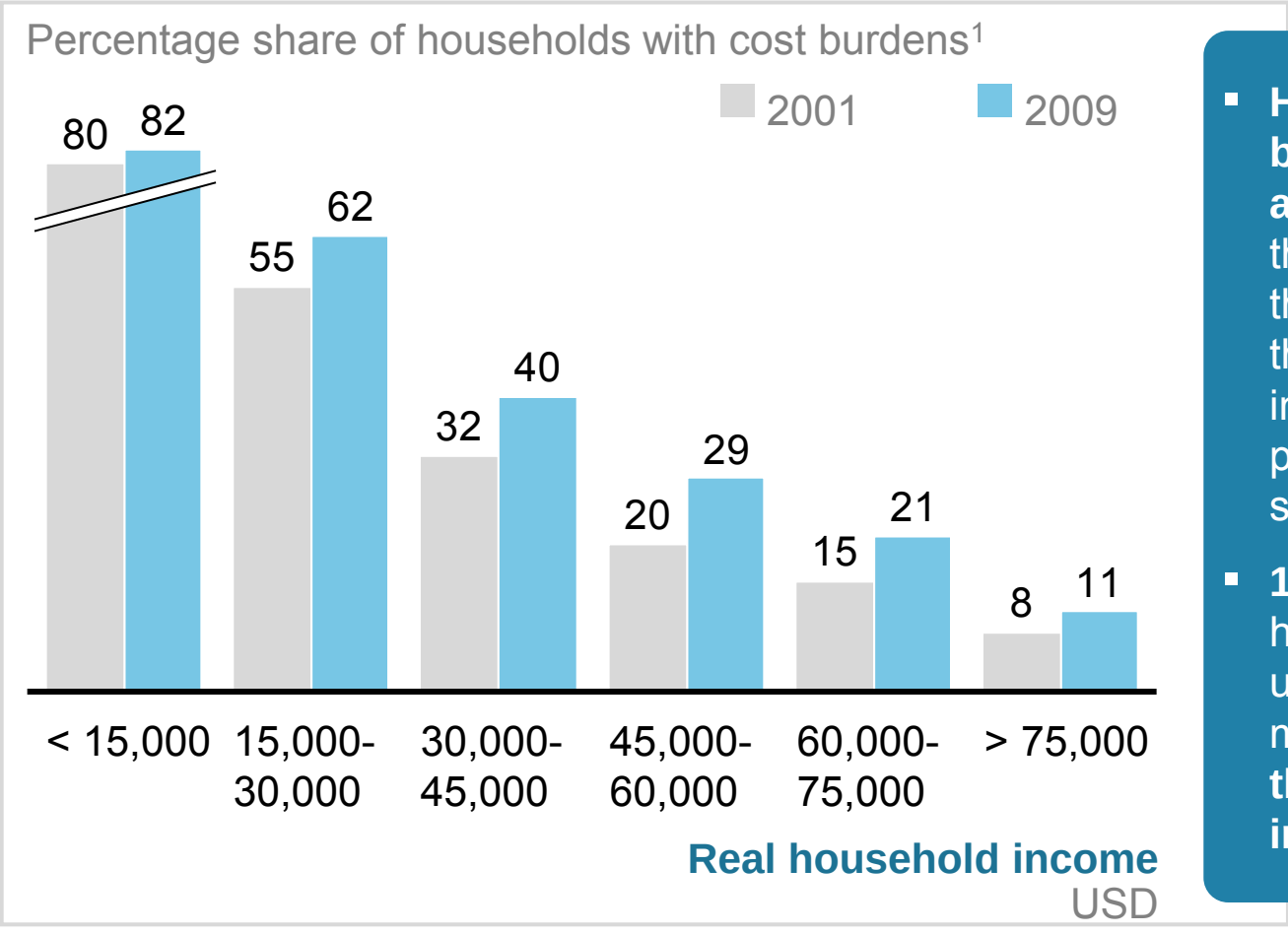
Ratio of median single-family home price to median household income




**Potential home buyers face new financial stresses including stagnating wages, weakened credit scores, and depleted savings**

Source: JCHS tabulations of National Association of Realtors, existing home sales prices; Moody's Analytics; team analysis

# A Affordability problems remain and are creeping up the income scale




- **Households earning between USD 45,000 and USD 60,000** saw the **biggest increase** in the share paying more than 30% of their income, up from 7.9 percentage points since 2001
- **17.1%** of American households – an unprecedented 19.4 million – **spent more than half of their incomes on housing**

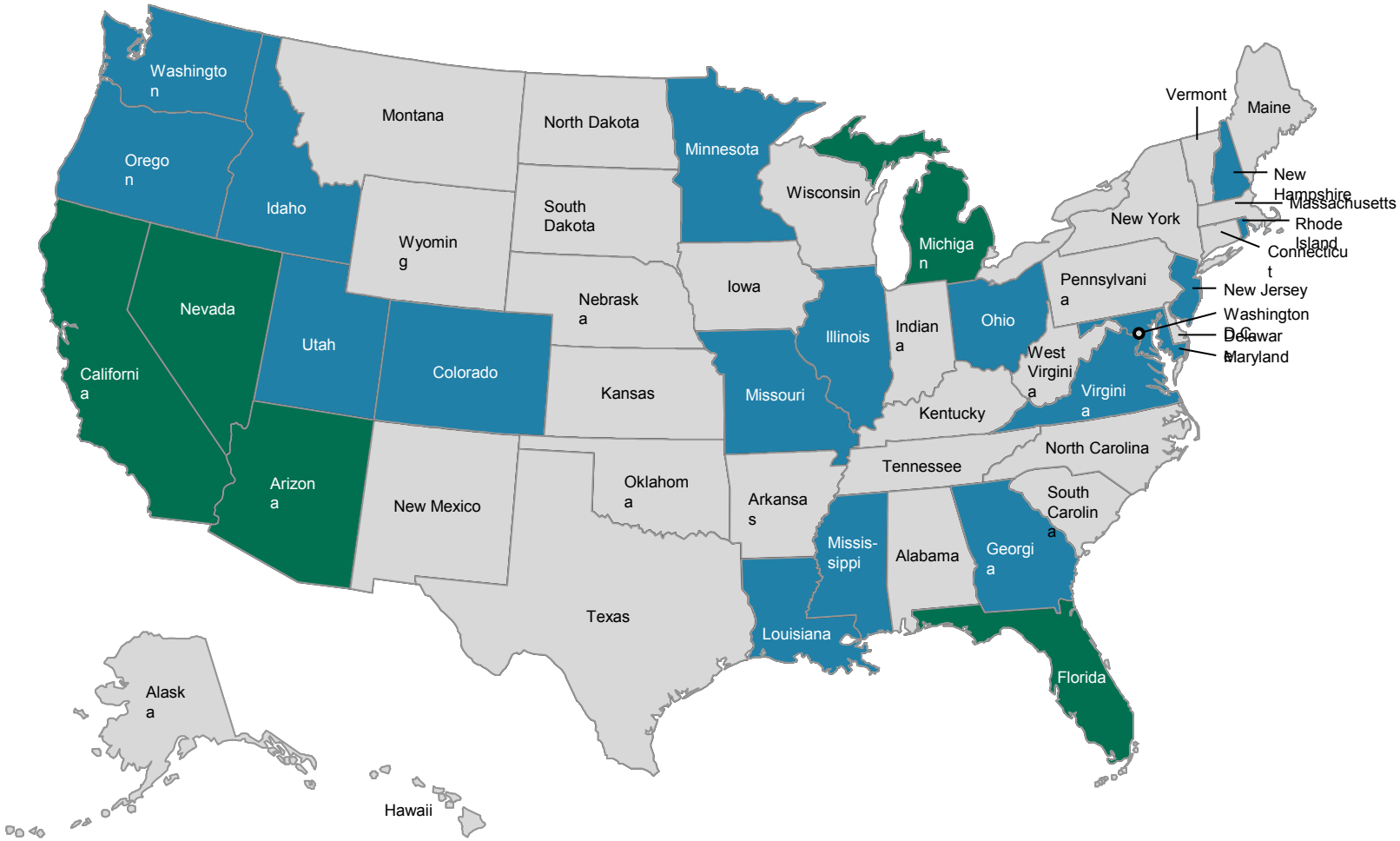
1 Cost-burdened households spend more than 30% of pretax income for housing. Income ranges are in 2009 USD adjusted for inflation by the CPI-U for all items

Source: JCHS tabulations of US Census Bureau, 2001; 2009 American Community Surveys

# A The housing recovery is expected to be unbalanced as negative equity remains severe in some states

WORKING DOCUMENT

Share of mortgages "underwater"[1], Q1 2011
Percent




1 Percentage of mortgages in negative equity, i.e., the mortgage debt is greater than the current value of the house

Source: Core logic "The US Housing and Mortgage Trends" (Feb 2011); McKinsey Global Institute

# Housing

## Current and future trends

A Housing market

B **Reduced home values have created negative economic effects for particular cities**

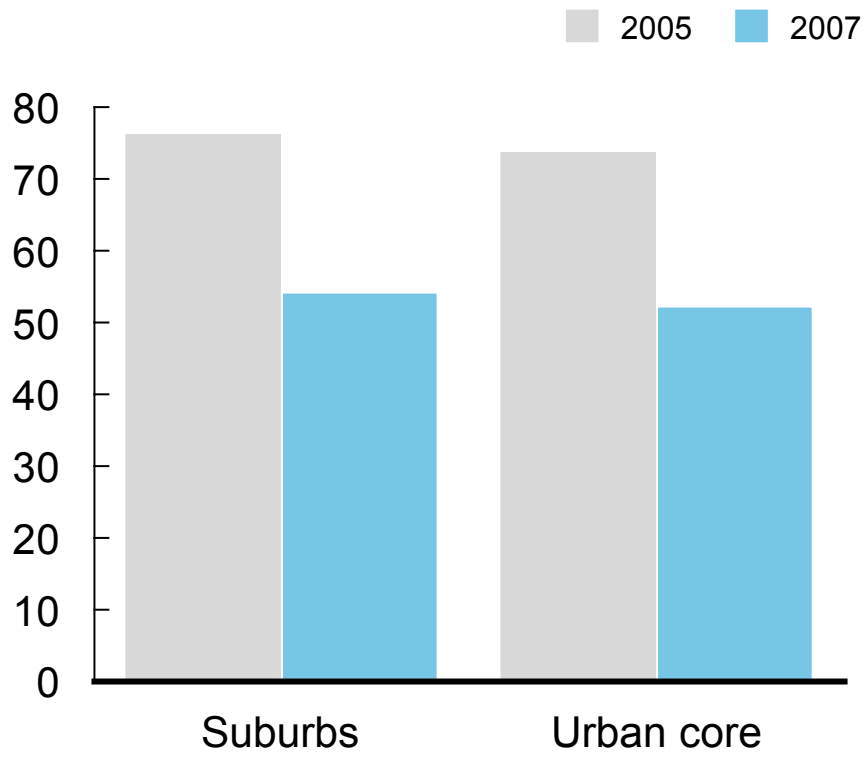
C Low-income residents face difficult housing conditions

## Solutions cities are pursuing

# 2 The decline in homeownership has been felt more greatly in urban core than in suburban or rural areas

**Homeownership rates in urban core as compared to suburbs**

Percent



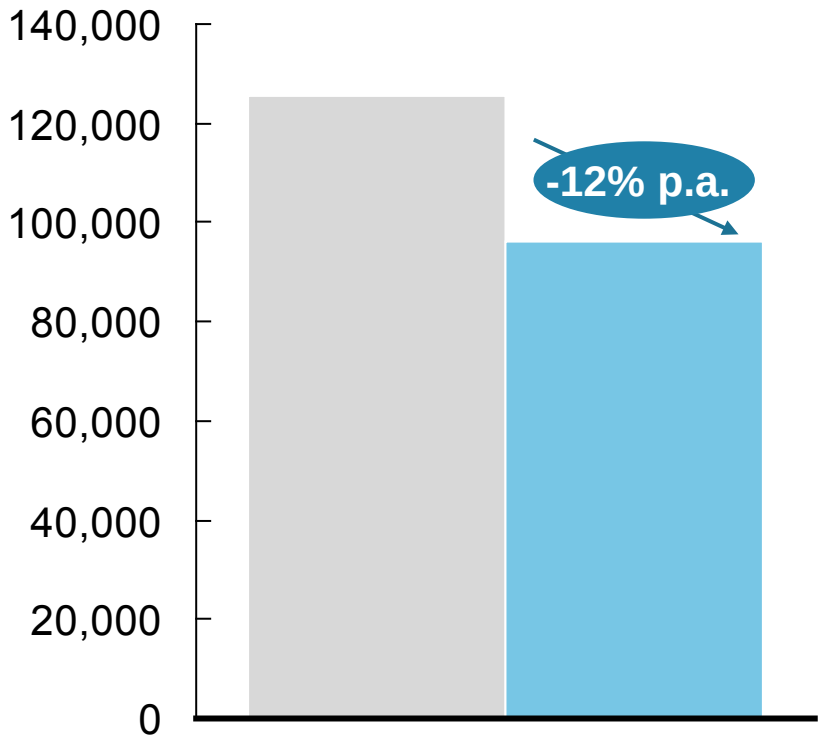

- With a much lower peak of just 54.2 percent in 2005, **homeownership rates in the urban core fell by 2.1 percentage points by 2010**
- The decline was almost as much in the suburbs, where homeownership rates dropped 2.4 percentage points from a much higher peak of 76.4 percent

Source: Joint Center for Housing Studies of Harvard University, State of Nation's Housing 2011 report

# 2 Housing crisis has decimated net household wealth

## Household net wealth decreased due to the burst of the housing bubble

Real median household net wealth ($)




- Real median household net wealth **fell by more than 23 percent in 2007-9**, from $125,400 to $96,000
- In aggregate, **real net household wealth plunged $12.4 trillion** from 2006 to 2010, returning to its 2003 level
- **Decline in home equity** accounted for **61 percent of the drop**
- This drop in wealth was experienced acutely by low-income and minority communities[1]

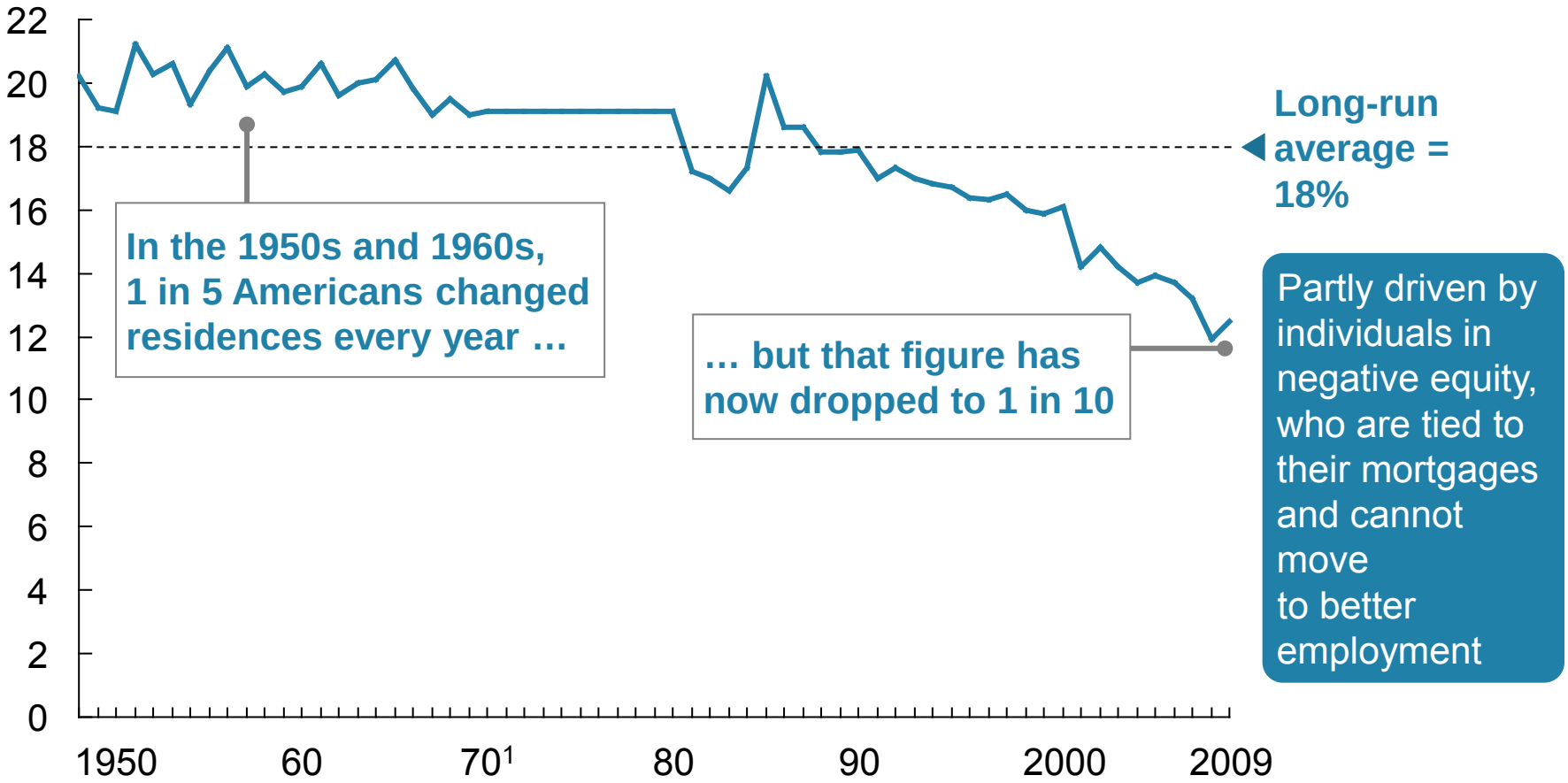
1 This is explored further in the next section

Source: Joint Center for Housing Studies of Harvard University, State of Nation's Housing 2011 report

# B Mobility in the US has been declining since 1990 and is at a 50-year low, reducing the flexibility of labor supply to respond to economic shocks

## Annual domestic migration rate, 1948 – 2009

Percentage of residents who have changed addresses during the past year




1 Data from 1970–81 are interpolated due to data constraints.

Source: US Bureau of Labor Statistics; McKinsey Global Institute analysis

# Housing

## Current and future trends

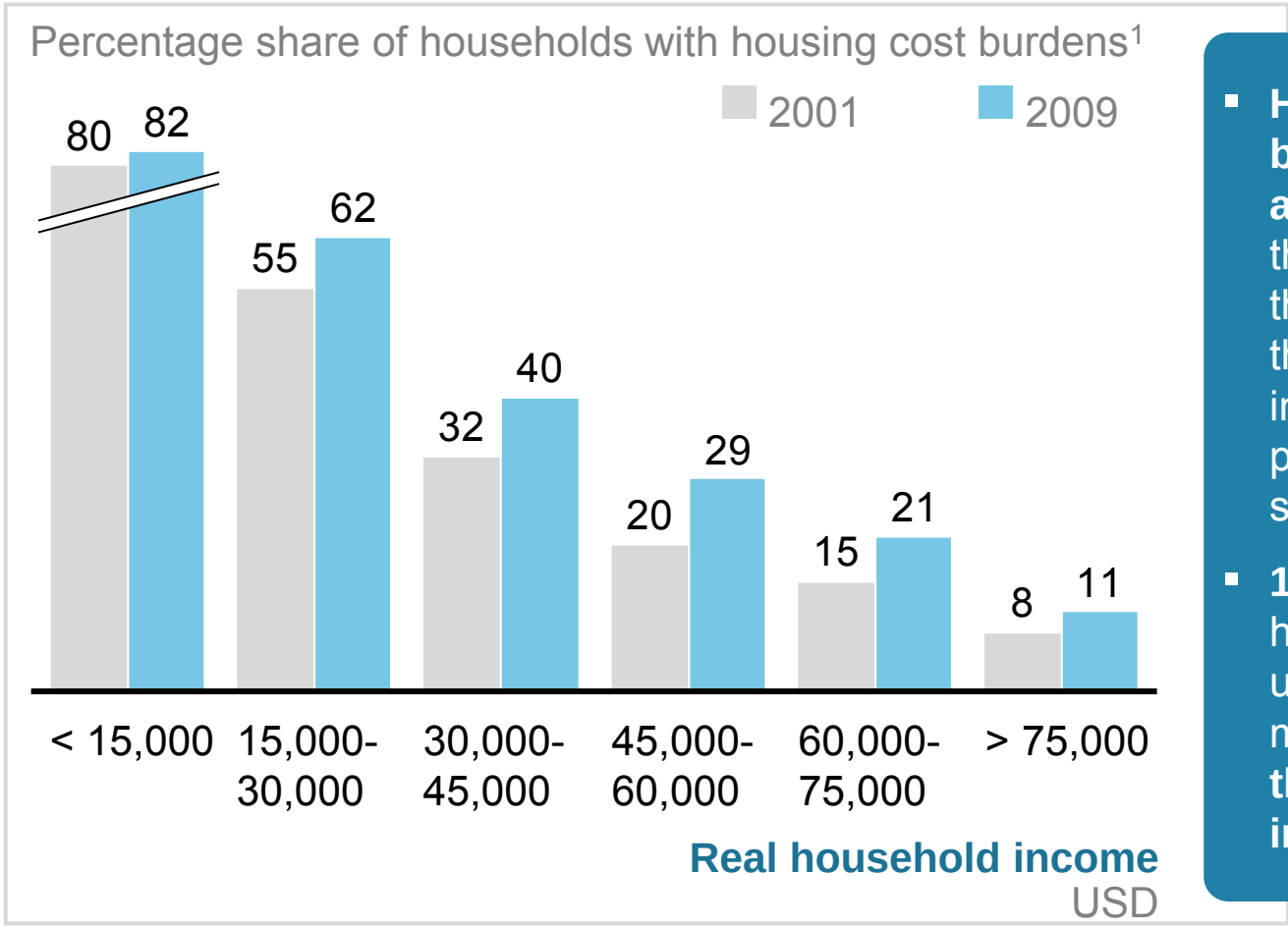
A Housing market

B Reduced home values have created negative economic effects for particular cities

C **Low-income residents face difficult housing conditions**

## Solutions cities are pursuing

# C Housing affordability problems are creeping up the income scale

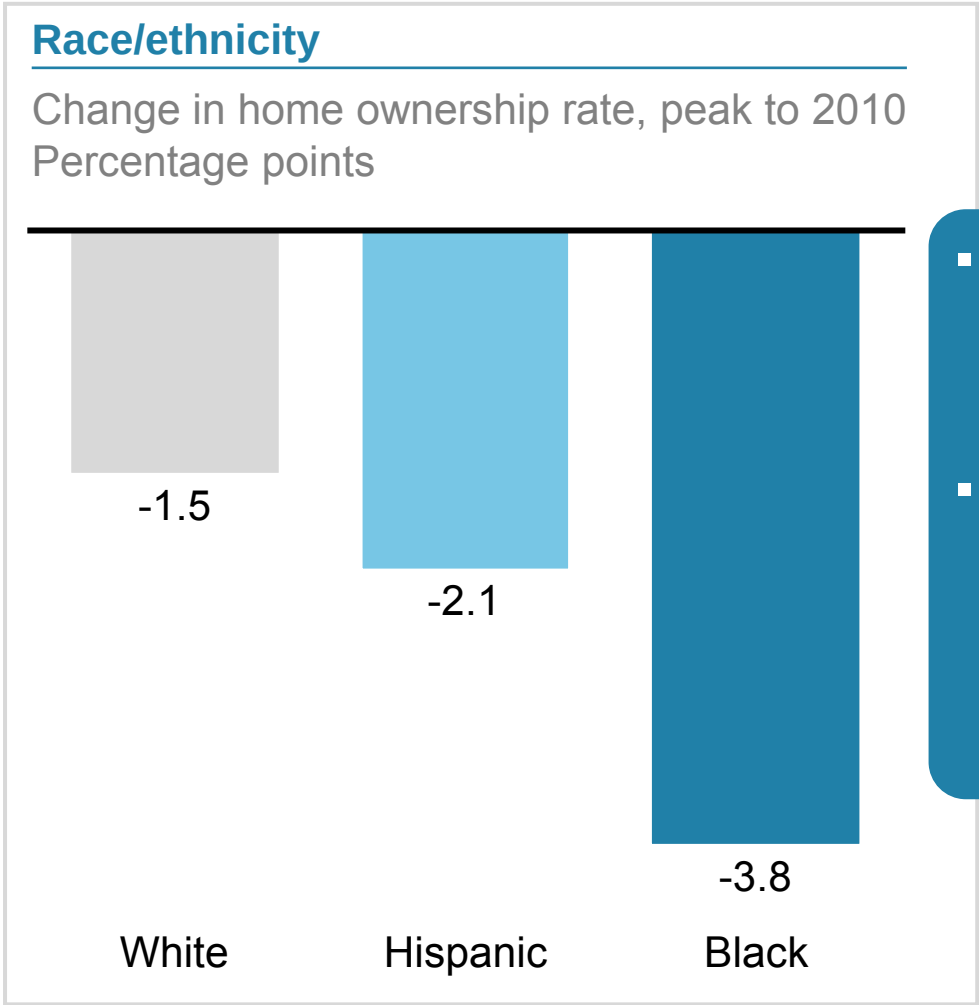



- **Households earning between USD 45,000 and USD 60,000** saw the **biggest increase** in the share paying more than 30% of their income, up from 7.9 percentage points since 2001
- **17.1%** of American households – an unprecedented 19.4 million – **spent more than half of their incomes on housing**

1 Cost-burdened households spend more than 30% of pretax income for housing. Income ranges are in 2009 USD adjusted for inflation by the CPI-U for all items

Source: JCHS tabulations of US Census Bureau, 2001; 2009 American Community Surveys

# C Home ownership rates have fallen more sharply among minorities than among whites, erasing improvement of the white-minority gap



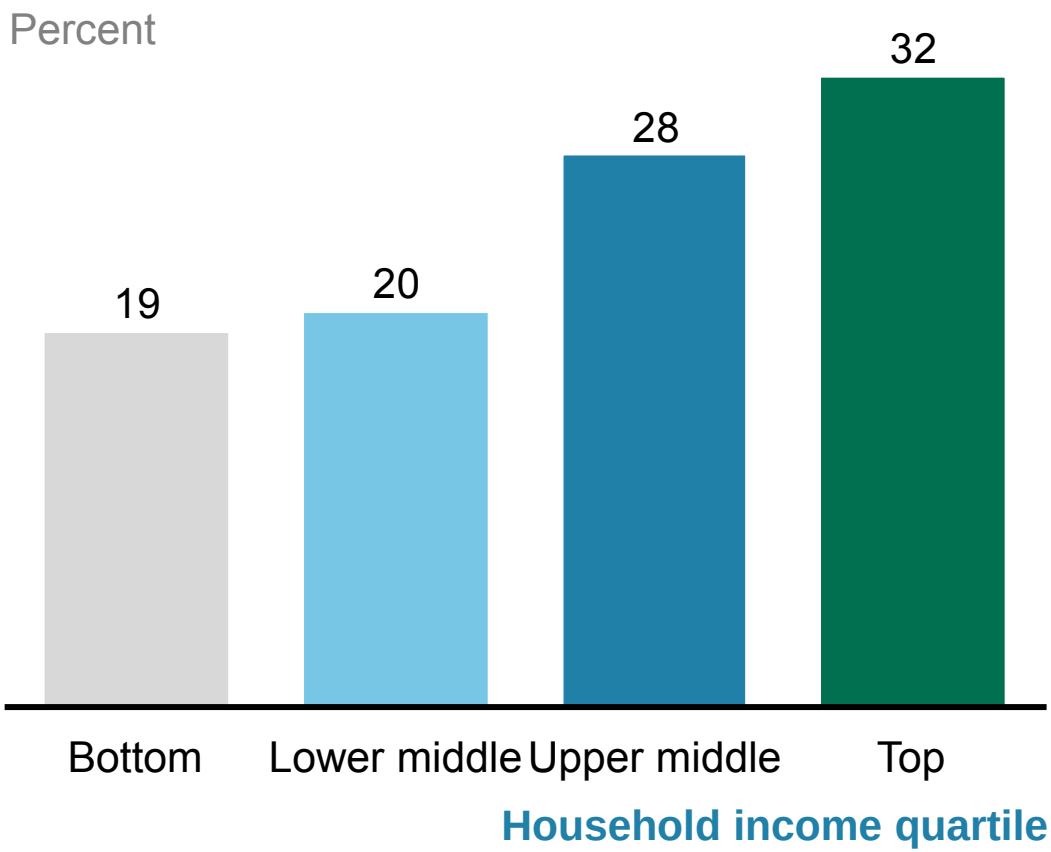

- Minority households have **significantly lower wealth** than white households
- Proposed increases in downpayment requirements is likely to limit the pool of minority households able to secure financing

Note: White and black households are non-Hispanic. Hispanic households can be of any race

Source: JCHS Report 2010; team analysis

# C Low-income homeowners are less likely to refinance their mortgages because of poor credit scores

## Share of non-mover households with mortgages that are refinanced at lower interest rates

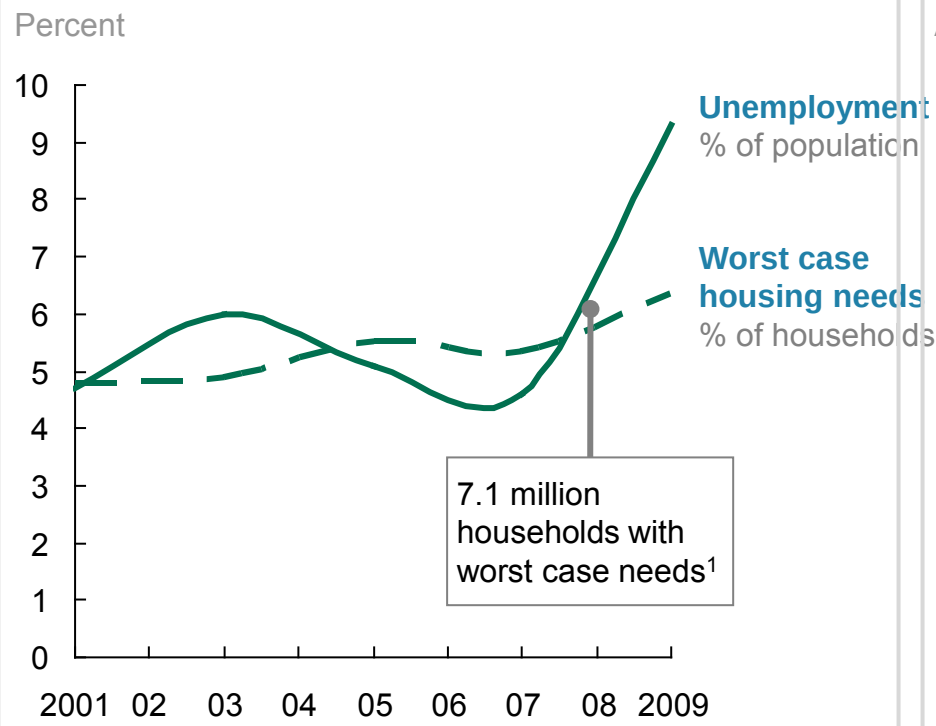



- Many cost-burdened homeowners who could benefit from refinancing but were unable to do so
- Owners in the bottom income quartile were only half as likely as owners in the top quartile to refinance to **lower interest rates**
- Unemployed homeowners cannot meet required payment-to-income ratios, while those with underwater mortgages lack the equity to meet required debt-to-value ratios to refinance

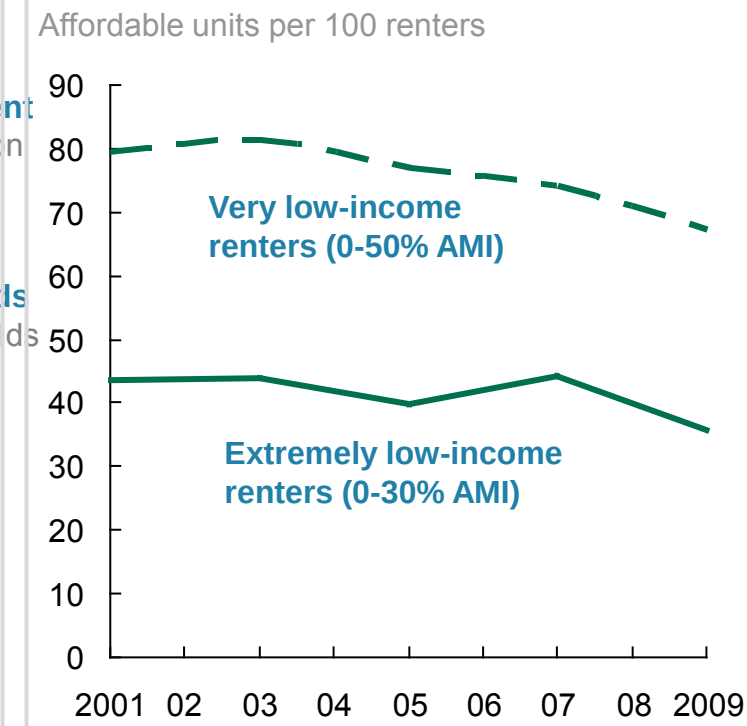
Source: JCHS tabulation of US Census Bureau; 2009 American Housing Survey using JCHS-adjusted weights; team analysis

# C Economic challenges have increased the demand for affordable rental housing

## Economic challenges have driven mounting demand for low-income rental and affordable homes




## Supply of affordable rental housing has eroded



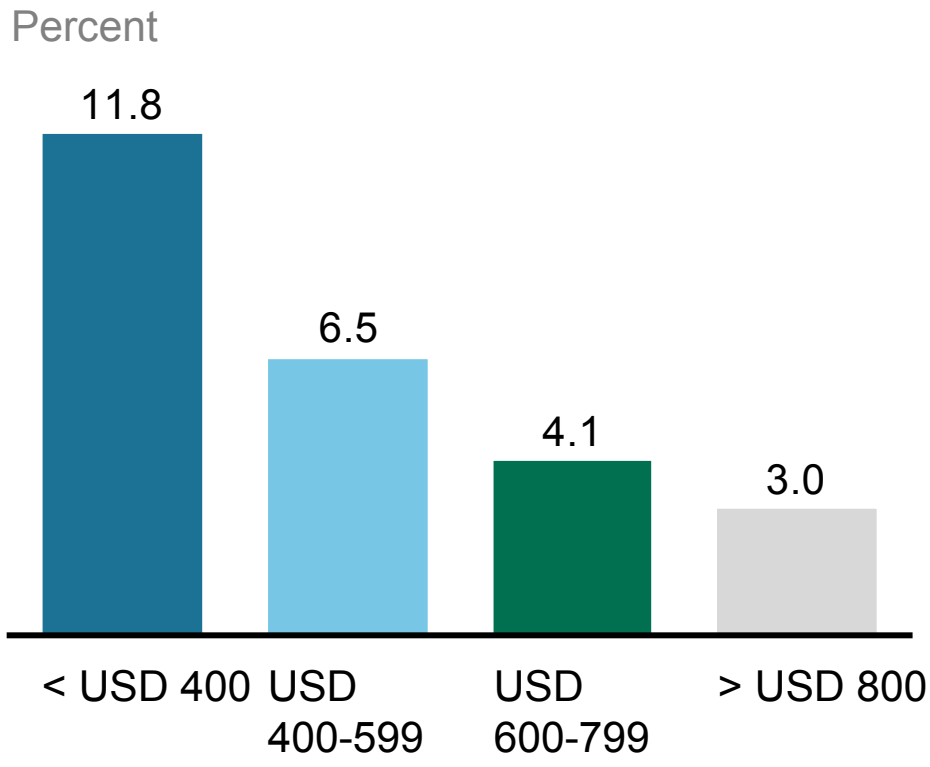

- In 2003, there was 1 affordable, available and adequate unit for every 2.5 extremely low-income renters. By 2009, 1 unit existed for every 2.9 such renters
- As the rental market continues to tighten and the competition for low-cost housing intensifies, the gap between demand for and supply of affordable rentals will only increase

1 Worst case needs are defined as very low-income renters who do not receive government housing assistance and who either paid more than one half of their income for rent and/or lived in severely inadequate conditions

Source: Bureau of Labor Statistics; HUD Worst Case Housing Needs 2009; team analysis

# C Low-cost rentals are at especially high risk of permanent loss

## Share of 1999 rental units permanently removed from the stock by 2009




**Real rent level[1]**

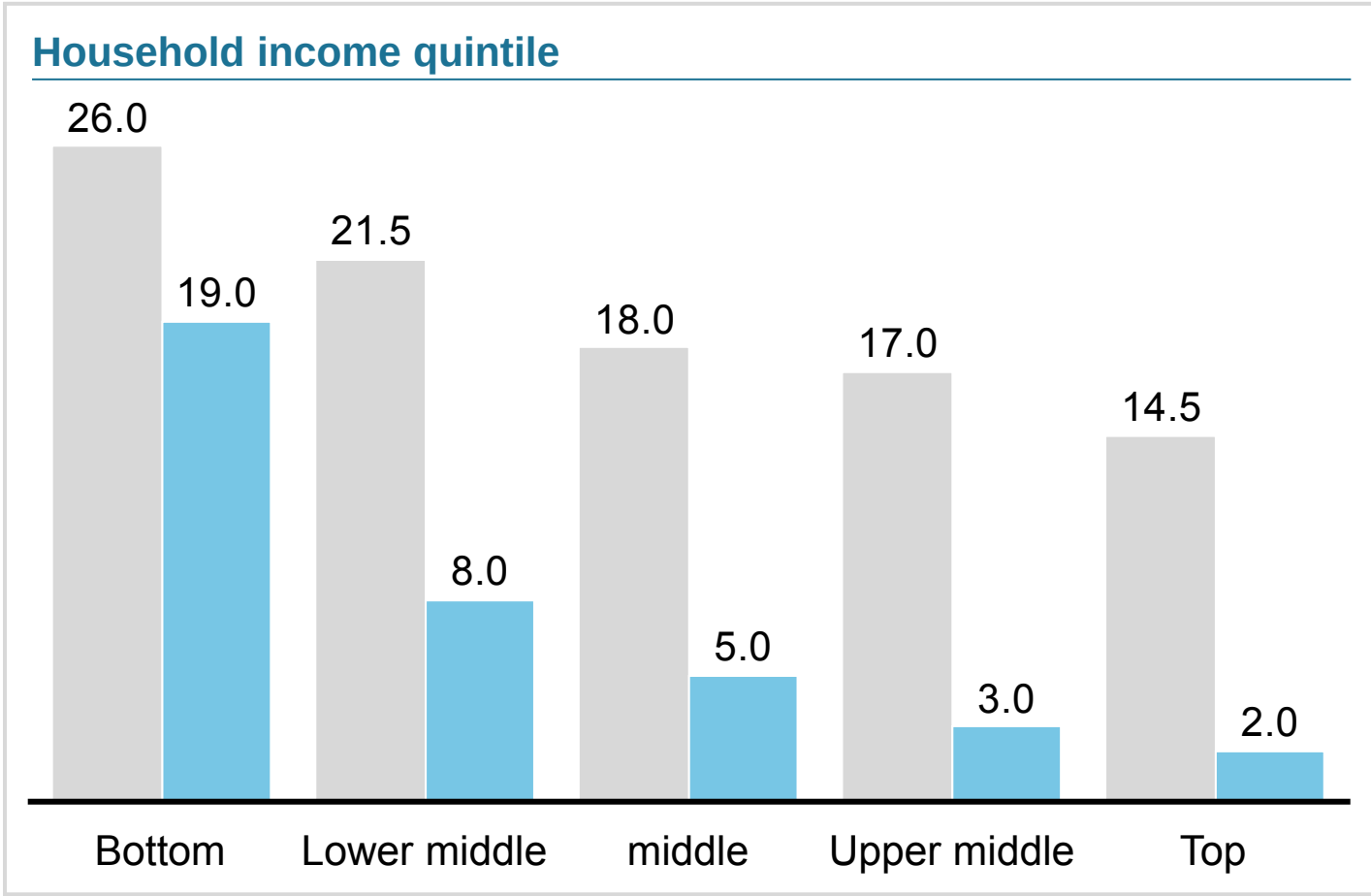
- Many low-cost rentals are being permanently lost from the stock, largely because the rents they earn cannot cover the cost of adequate maintenance
- Many of the losses are due to demolition or other forms of permanent removal
- This will continue to squeeze low-income rental market

1 All dollar values are 2009 dollars, adjusted for inflation by the CPI-U for all items

Source: JCHS tabulations of US Census Bureau; 1999 and 2009 American Housing Surveys; team analysis

# Utilities account for a disproportionately large share of income and housing costs for low-income renters

Percent




Source: JCHS tabulations of US Census Bureau, 2009 American Housing Survey

# Housing

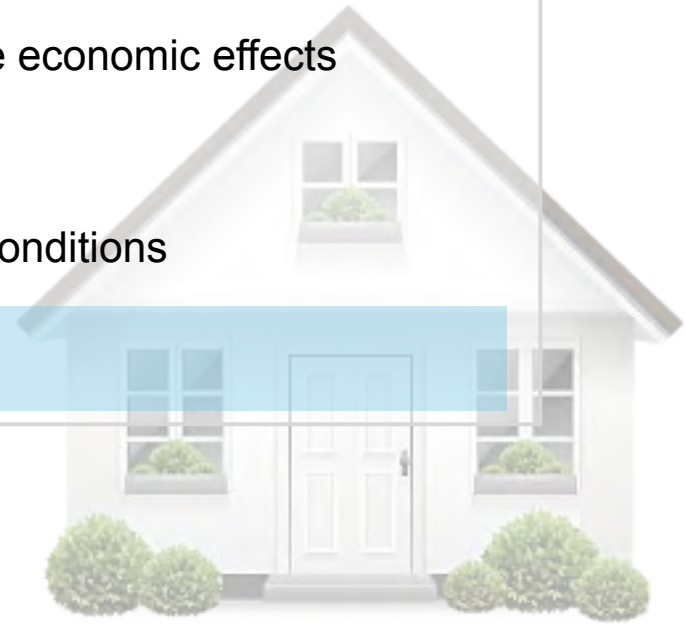
## Current and future trends

A Housing market

B Reduced home values have created negative economic effects for particular cities

C Low-income residents face difficult housing conditions

## Solutions cities are pursuing



# Several solutions are emerging to target housing in cities

NON-EXHAUSTIVE ILLUSTRATIVE

| Trend | Emerging ideas |
|---|---|
| 1 Homeowners face decreasing wealth base and declining home values | ▪ Organizations are acting as a bridge between communities and financial institutions (e.g., National Community Stabilization Trust)<br>▪ Employers are sponsoring housing for their employees<br>▪ Some are supporting shared ownership models |
| 2 Renters are experiencing increasing price pressure on rental stock | ▪ Some are facilitating conversion of foreclosed homes to rental properties (e.g., Way Point)<br>▪ City governments are moving away from public housing and converting units into mixed-income housing (e.g., Hope SF) |
| 3 Decreased home values have created negative effects on particular cities | ▪ Proposed changes in zoning to drive greater economic development |

Text

# Employers are sponsoring housing for their employees

## What it is:

- Employers provide both payment assistance and housing counseling
- Payment assistance may be include zero-to-low interest and forgivable loan amounts
- Special state incentives, including tax credits for employers, make EAH more compelling

## Where its happening

- Successful model in **Chicago,** encouraged by tax credit and implemented by **REACH Illinois** (participants include CVS and Chicago Public Schools). More than 2,5000 employees have bought homes since 2000
- **Select Milwaukee** (established by HUD) runs the counseling and administration of EAH programs for thirteen employers in Milwaukee. Nearly 65% of homes purchased (over 300) where in zip codes where median annual incomes were less than $33,000. 42% of EAH homebuyers were female heads of household

## Benefits and challenges

- For companies, that provide housing, this creates lower turnover and greater dedication to work (as employees live closer to work)
- For individuals, this strengthens financial stability by building wealth and preventing foreclosure
- In the workplace, this reduces employee commutes, absenteeism, recruitment and training costs
- This has the potential to create dependency on employers and may be harmful if jobs are lost



Source: Metropolitan Planning Council

# Contents

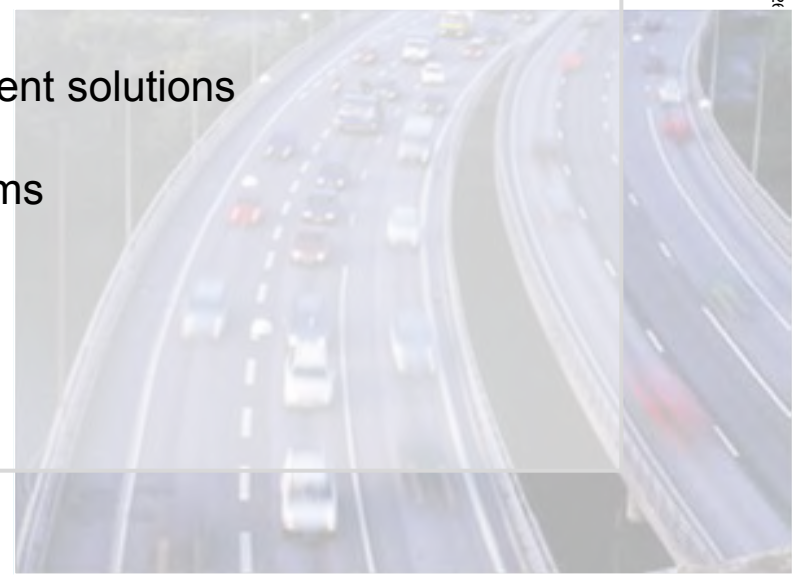
# Infrastructure

## Current and future trends

- **A** Transportation preferences
- **B** Declining performance outcomes
- **C** Public transit fiscal condition trends
- **D** Low-income travel outcomes

## Solutions cities are pursuing

- **D** Technology-enabled traffic management solutions
- **E** Flexible and targeted transport systems
- **F** Innovative finance mechanisms
- **G** Effective governance bodies



# The transportation landscape is changing in US cities

## A Transportation preferences are showing some signs of change

- Americans are still driving primarily by car, and many trips are nonessential
- Within urban areas, there is a tendency to own fewer cars, and young people are choosing to drive less

## B Congestion is increasing on US roads and current policies are aimed at managing a decline in performance outcomes

- The condition of transport assets continues to improve, while performance deteriorates (e.g., congestion continues to increase)
- Many current city transportation policies are aimed at reducing the pace of decline in outcomes (as opposed to improving outcomes, e.g. reducing congestion)

## C Public transit authorities are facing fiscal pressure and aging assets

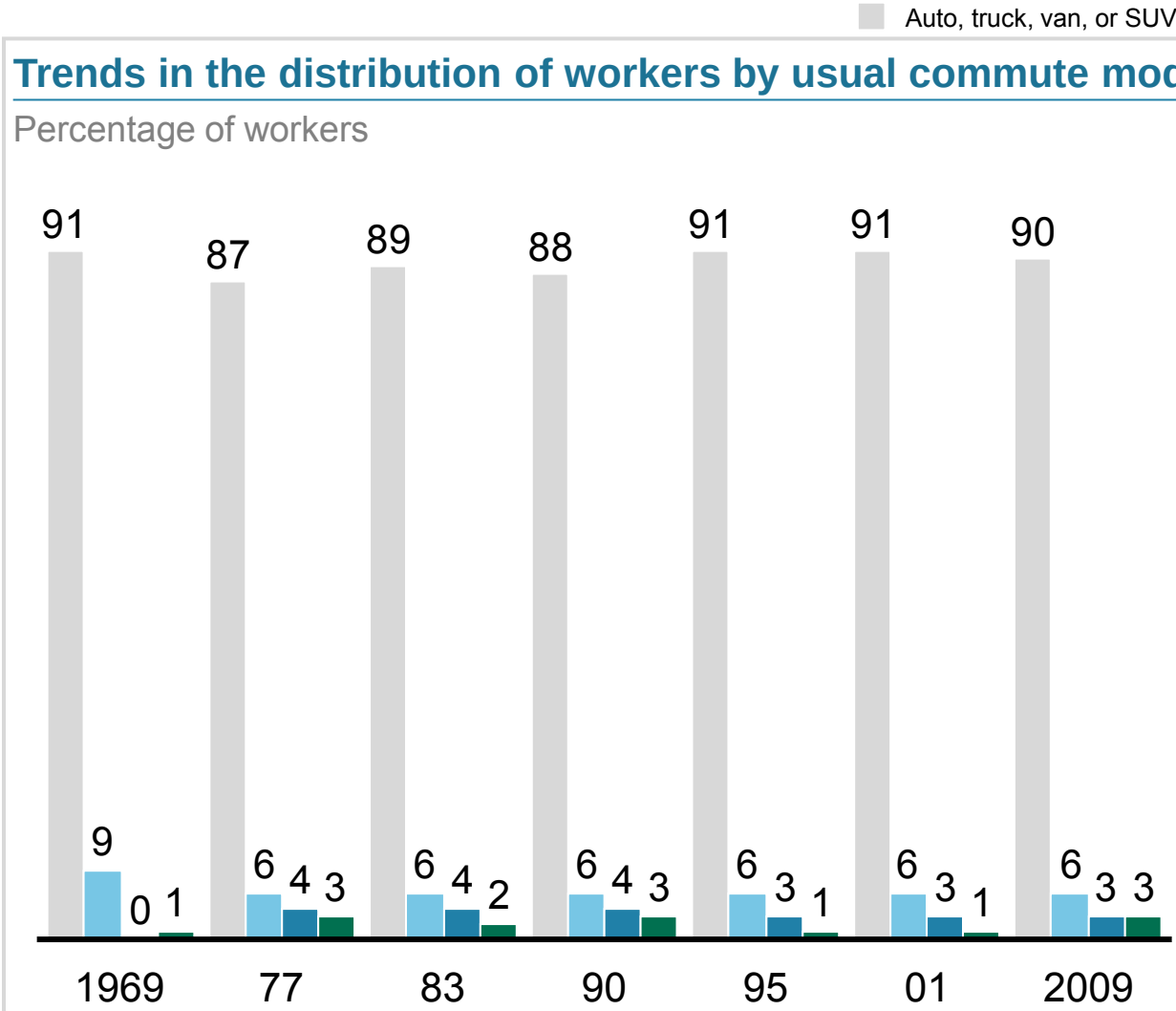
- Public fiscal pressure is leading governments to reduce infrastructure funding, while bus and rail assets are undermaintained

## D Low-income people experience worse travel outcomes

- Low-income people are living further from the urban core and have diminished access to transportation
- Low-income populations have higher transit wait times as they are generally unable to substitute transit with more convenient options

Source: Expert interviews; team analysis

# Across the US, Americans still overwhelmingly travel to work by car



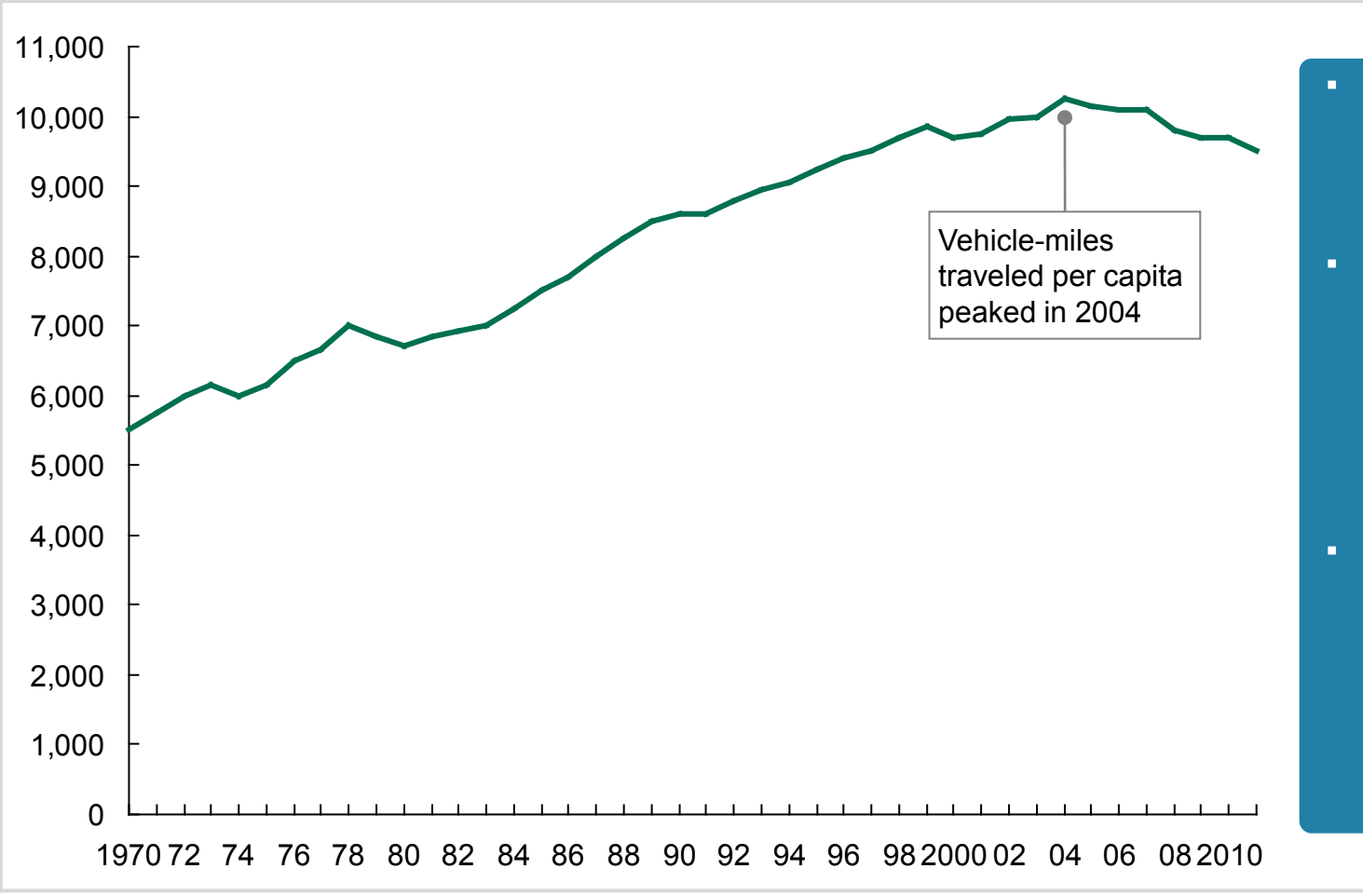

- There is higher share of public transit in cities vs. rural areas
- A key driver of preference for using cars is dispersed commuting patterns
- Downtown areas have only 10% of urban area employment, yet account for nearly 50% of transit commuting in the nation's largest urban areas
- Overwhelming majority of public transit occurs in wealthy achievers archetype

Note: The usual mode is defined as the means of transportation usually used to go to work in the week prior to the travel day; the 1969 survey excluded walk trips; public transit includes local bus, commuter bus, commuter train, subway, trolley, and streetcar; other includes other modes not shown above such as motorcycle, Amtrak, airplane, taxi, bike, school bus, and others

Source: National Household Travel Survey 2009; New Geography Blog; team analysis

# Americans are driving ~6% fewer miles than in 2004

Vehicle-miles traveled per capita




- In 2011, the average American drove 6% fewer miles per year than in 2004
- From 2001 to 2009, the average annual number of vehicle-miles traveled by young people (16-34 year-olds) decreased by 23%[1]
- Young people are choosing to bike, walk, or use public transit at higher rates- this has implications for the promising youth archetype

1 Young people are driving less for a host of reasons, including higher gas prices, new licensing laws, improvements in technology that support alternative transportation, and changes in Generation Y's values and preferences

Source: National Household Travel Survey 2009; team analysis

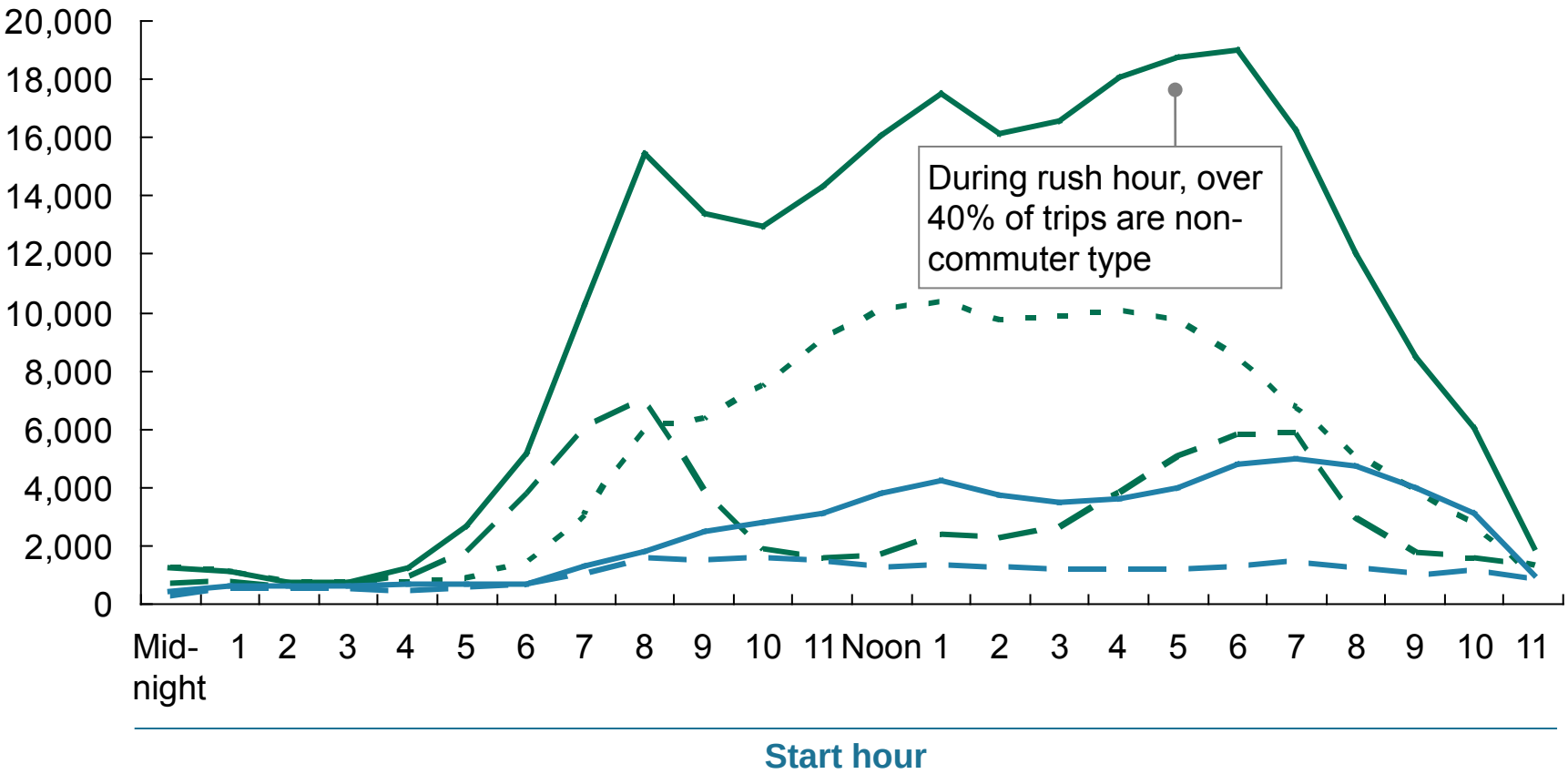
# Large proportion of trips today are non-commuter type

Total
Family/personal (including shopping)
School/church
Commute
Social

## Distribution of vehicle trips by trip purpose and start time of trip

### Number of vehicle trips in 2009 by start time and purpose

Millions



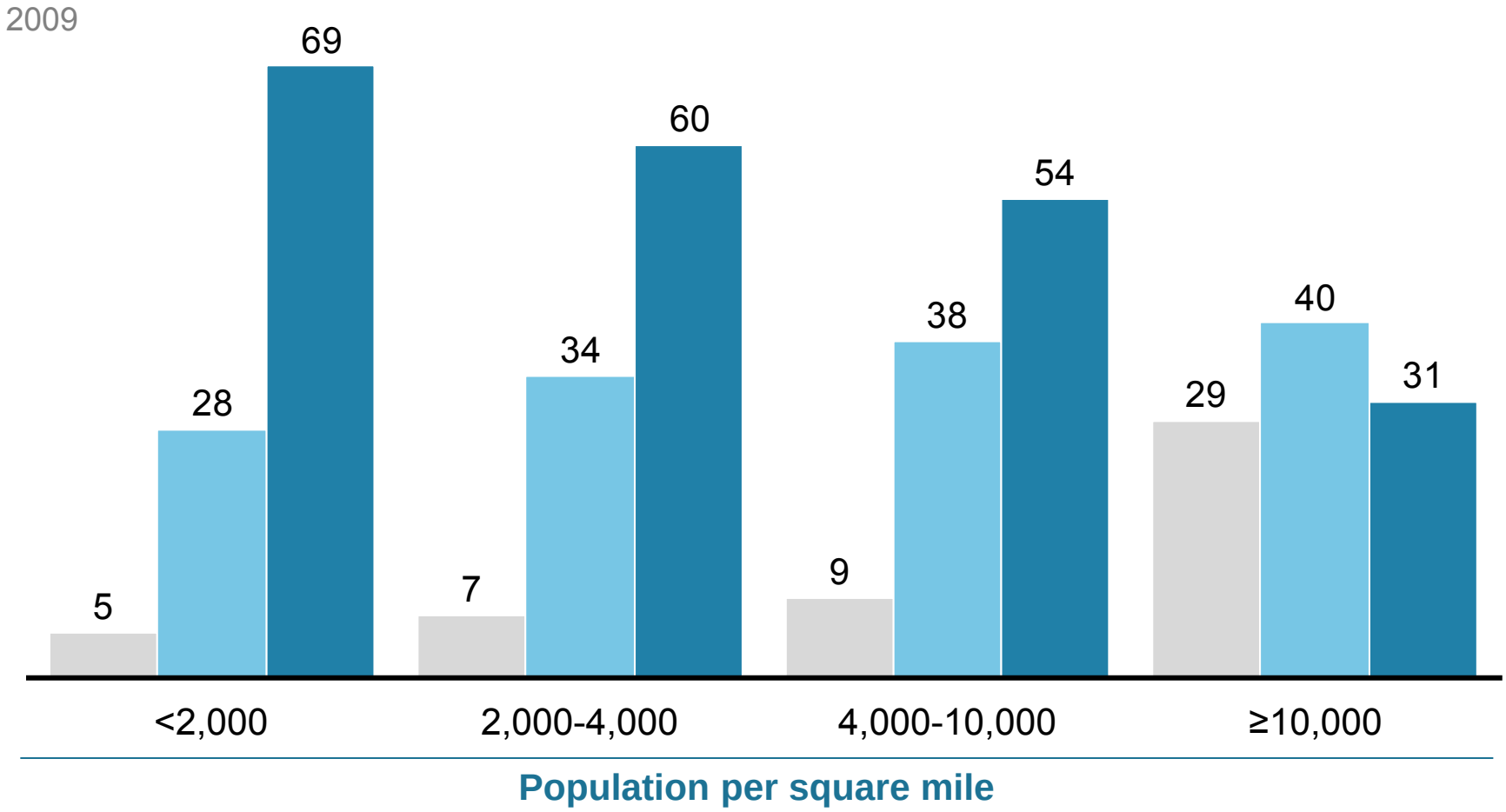

**This lends to more tailored solutions to reduce congestion**

Source: National Household Travel Survey 2009; team analysis

# Within major urban areas, there is a tendency to own fewer vehicles

No vehicles | 1 vehicle | 2 or more vehicles

## Percentage of households by vehicle ownership and population density




Source: National Household Travel Survey 2009; team analysis

# Infrastructure challenges are primarily driven by declining performance from increasing demand, rather than a decline in physical conditions

## Improving physical conditions

***From 1997 to 2006 …***

The **share** of NHS VMT on **pavements with "good" ride quality rose** from 39% to 57%

**Bus vehicle condition ratings increased** from 2.94 to 3.01

**Rail vehicle condition ratings increased** from 3.42 to 3.51

***From 1992 to 2010 …***

The **number of** structurally **deficient NHS bridges** was **reduced** from 10,683 to 5,699

## Declining performance

***From 1982 to 2009 …***

The **average annual hours wasted in delays rose** from 14 hours to 34 hours

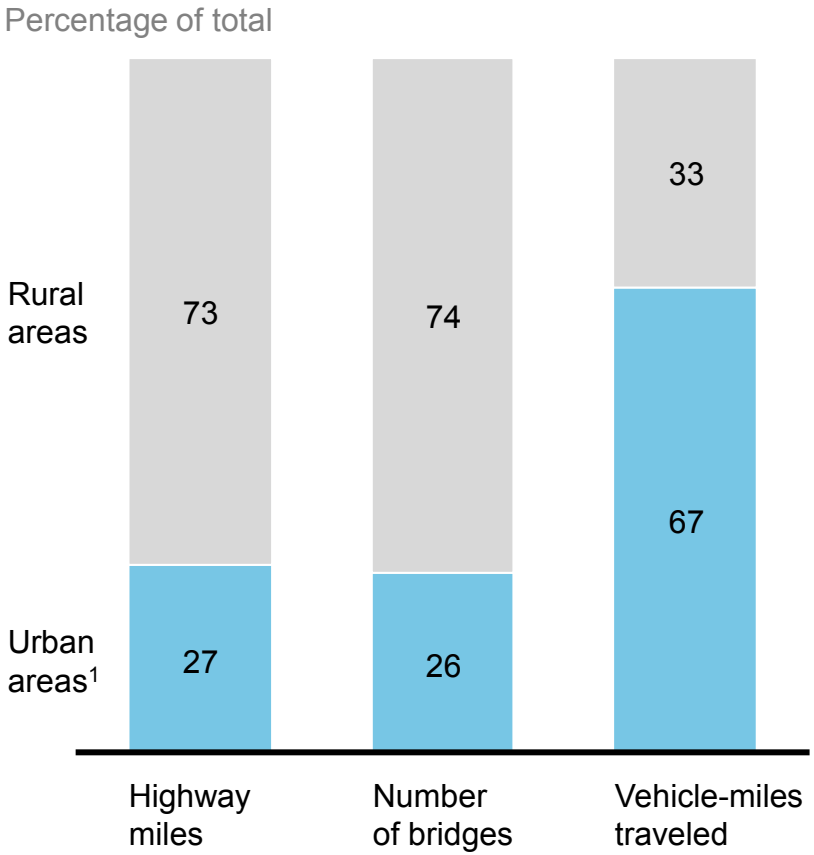
The **travel time index** (ratio of travel time in peak vs. free-flow conditions) **increased** from 1.08 to 1.20

***Drivers experienced more than 4.8bn hours of delay and wasted 3.9bn gallons of fuel in 2009***

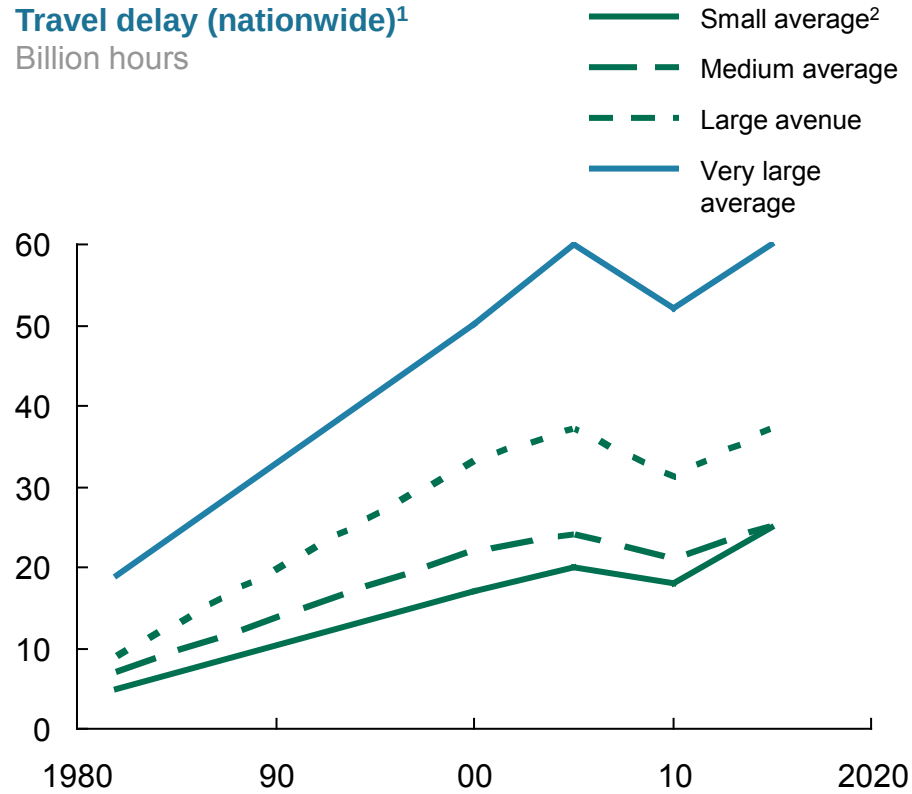
Source: USDOT Conditions & Performance Report (2008), TTI Urban Mobility Report (2010)

# Congestion is increasing and creating travel delays in US cities

## Urban areas have ~26% of the road miles and ~25% bridges, but receive 66% of total vehicle traffic




## Congestion is continuing, and current policy approaches only manage decline in outcomes




**Total cost of congestion in US cities today is USD 78.2 billion, which is USD 713 per person (2011)**

1 Projected using current growth rate for last 5 years

2 Very large urban areas: over 3 million; large urban areas: over 1 million and less than 3 million; medium urban areas: over 500,000 and less than 1 million population; small urban areas: less than 500,000 population. Yearly delay per auto commuter: extra travel time during the year divided by the number of people who commute in private vehicles in the urban area

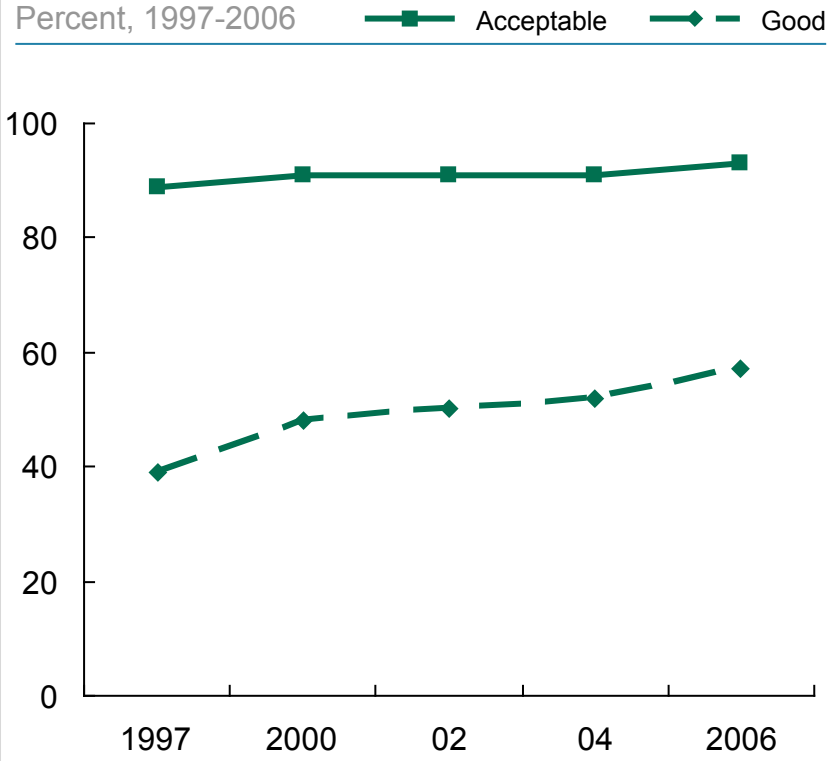
Source: Texas Transportation Institute - "Urban Mobility Report"; NST Financing Commission; NST Policy Commission; US DOT Conditions and Performance (2008); team analysis

# The quality of bridges and roads continue to improve, suggesting that a lack of maintenance spend is not currently driving declining outcomes

## Road quality has been steadily improving since 1997

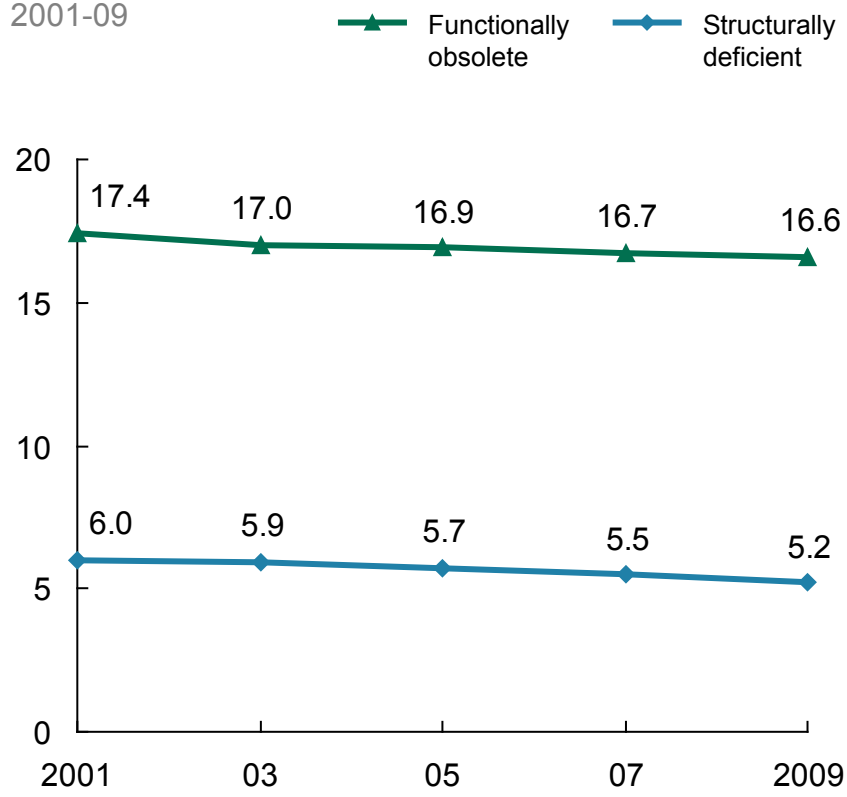
**Percentage of vehicle-miles traveled on NHS pavements with acceptable ride quality**

Percent, 1997-2006




## The percentage of deficient and obsolete bridges have been steadily declining since 2001[1]

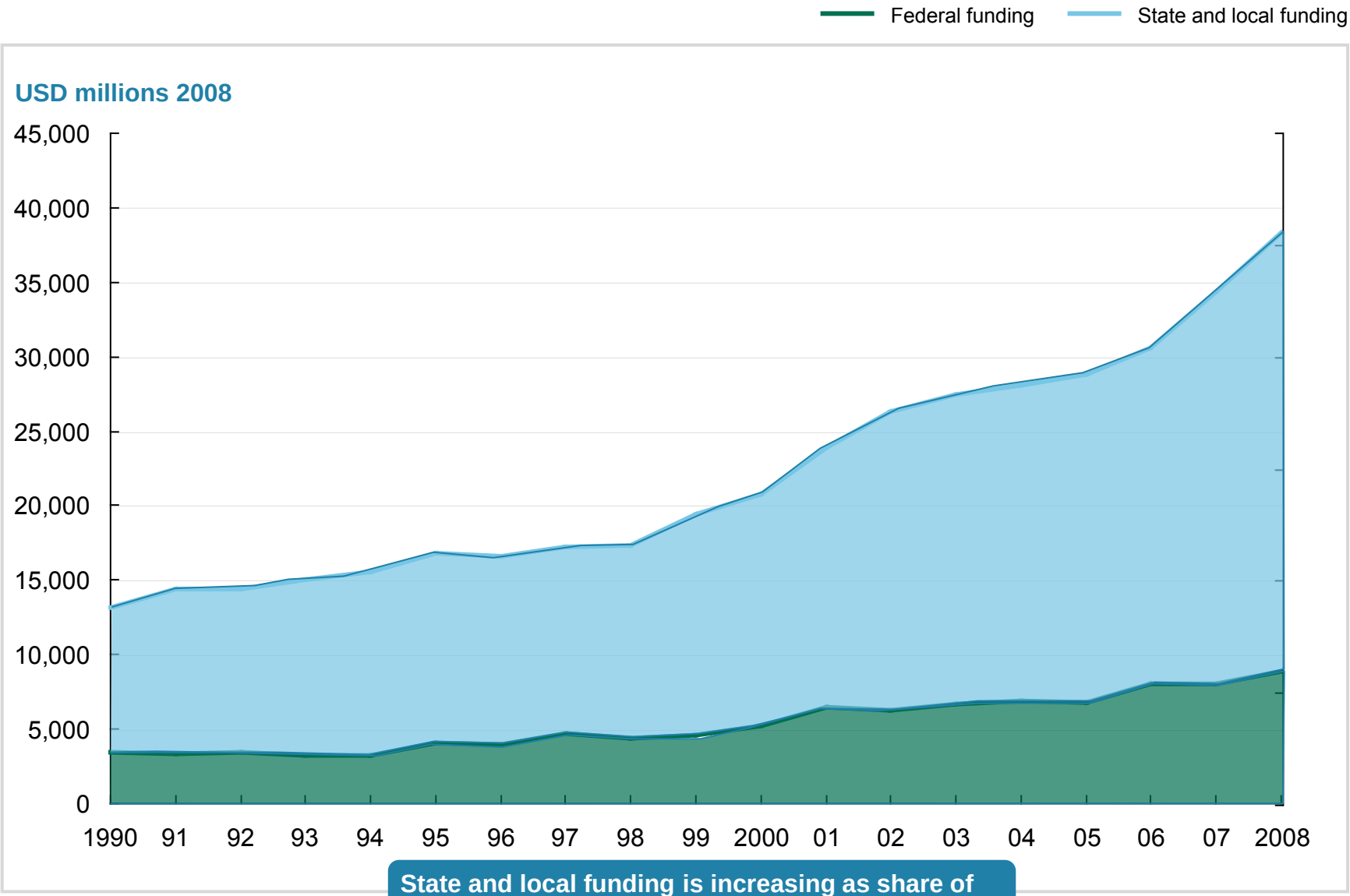
Percentage of NHS bridges classified as deficient, 2001-09




1 Structural deficiencies are characterized by deteriorated conditions of significant bridge elements and potentially reduced load-carrying capacity and typically require significant maintenance and repair to remain in service. Functionally obsolete bridges do not meet current design standards (for criteria such as lane width), either because the relevant design standards have been revised and/or the volume of traffic carried by the bridge exceeds the level anticipated

Source: US DOT Conditions and Performance Report 2008; team analysis

# Public funding for transit by government jurisdiction, 1990-2008




**State and local funding is increasing as share of the total funding is available for public transit[1]**

1 This only includes operating funding (not capital)
Source: National Transit Database; team analysis

# In response to fiscal pressure, cities are reducing capital investment and transit services, as well as increasing prices charged for use

## Across US cities, municipal authorities are cutting back public services

ST. LOUIS POST-DISPATCH

- To offset part of transit agency's USD 50 million budget deficit, 600 bus drivers and other transit employees have been recently laid off, and bus service has been reduced by 44% and metro service by 32% starting in March 2009

Detroit Free Press

- Detroit's Department of Transportation eliminated nighttime bus service from 1 a.m. to 4 a.m. and shortened service hours on 34 weekday routes and 29 weekend routes
- In April 2012, Detroit increased the length of time between buses across the city
- Detroit has severely curtailed its level of capital investment for future transit

## Costs to use metro transit are rising

The New York Times

- In December 2010, MTA MetroCard rose by USD 15 to USD 104 a month, a 17% increase and a single ticket ride went up from USD 2.25 to USD 2.50

The Atlanta Journal-Constitution ajc.com

- In October 2011, Atlanta's train and buses jumped to USD 2.50

Salt Lake Tribune

- In Salt Lake City, rides to Temple Square on the popular light-rail system rose a quarter in May 2011 to USD 2.25 and are scheduled to hit USD 2.50 in 2 years

San Francisco Chronicle

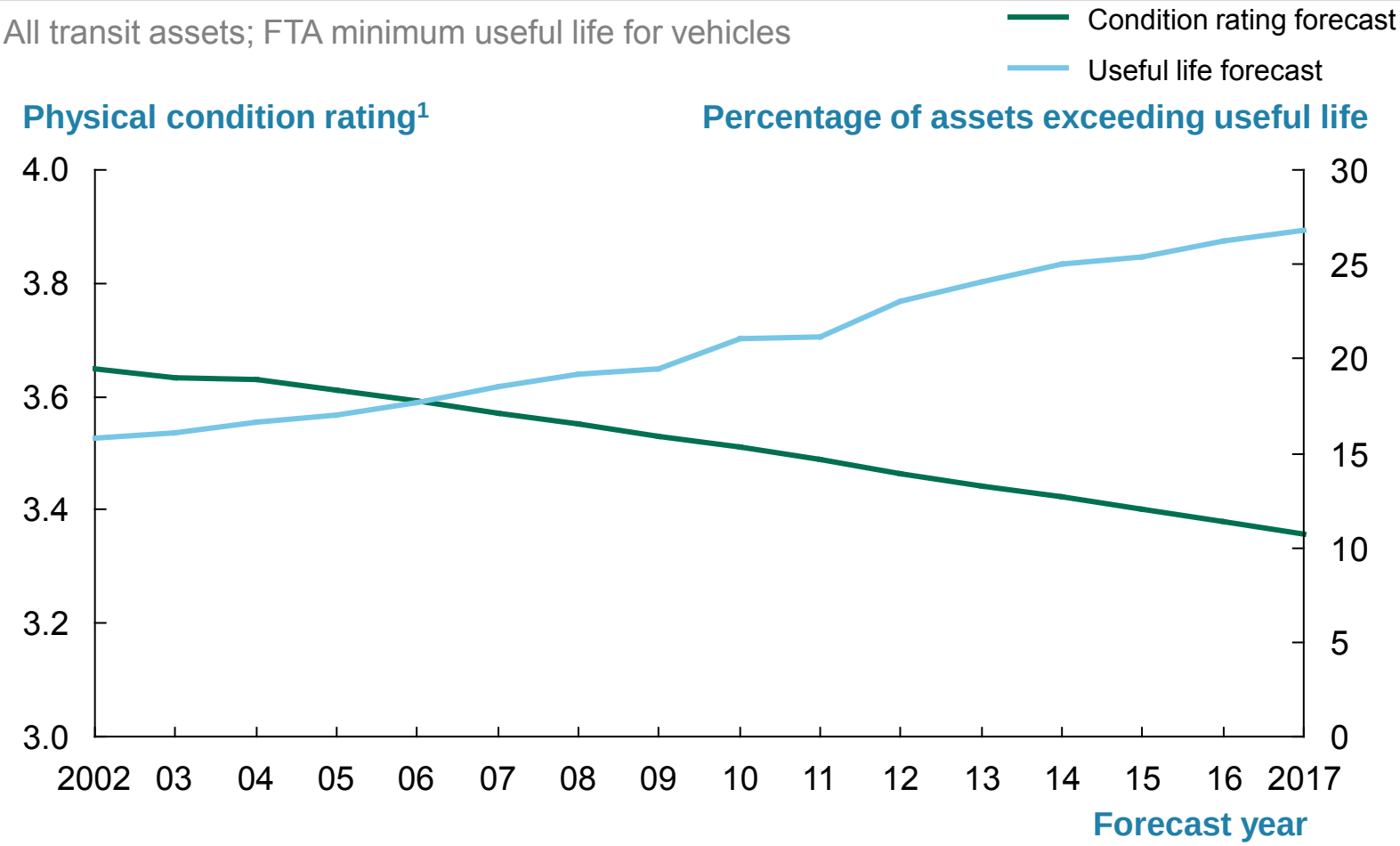
- San Francisco's iconic cable cars went up to USD 6 in August 2011

Source: Sánchez, Thomas W., Stolz, Rich, and Ma, Jacinta S. (2003). Moving to Equity: Addressing Inequitable Effects of Transportation Policies on Minorities. Cambridge, MA: The Civil Rights Project at Harvard University; Survey by American Public Transit Association

# Assuming current funding levels are maintained, the condition of transit assets will decline

## Asset conditions assuming current funding levels are maintained: Condition rating vs. forecasts (2006-26)

All transit assets; FTA minimum useful life for vehicles

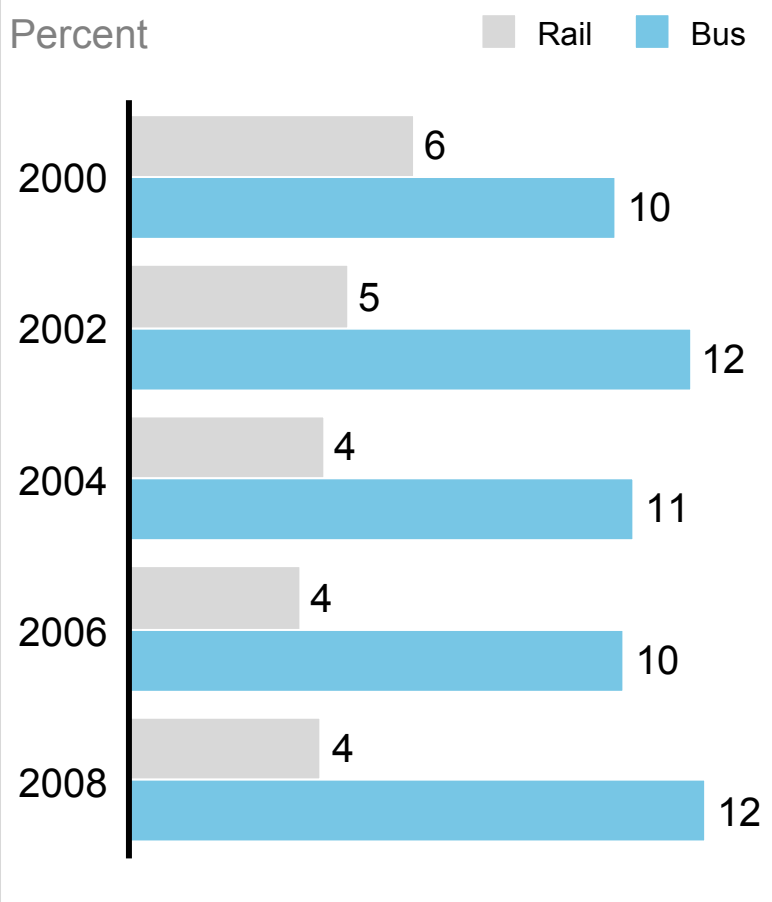



1 Excellent condition (4.8 – 5.0) ; Good (4.0 – 4.7); Adequate (3.0 – 3.9); Marginal (2.0 – 2.9); Poor (1.0 – 1.9)

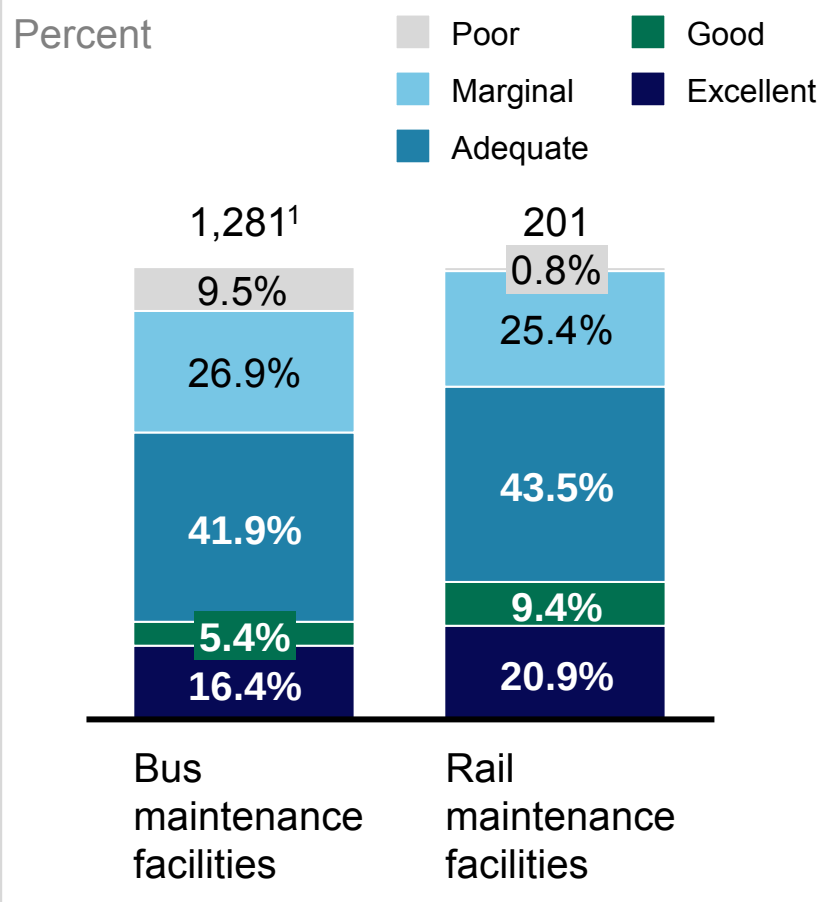
Source: Transit Economic Requirements Model; US DOT 2008; team analysis

# The condition of rail vehicles and maintenance facilities has remained static, while bus conditions have deteriorated

## Vehicles below an acceptable condition




## Condition of bus and rail maintenance facilities, 2006



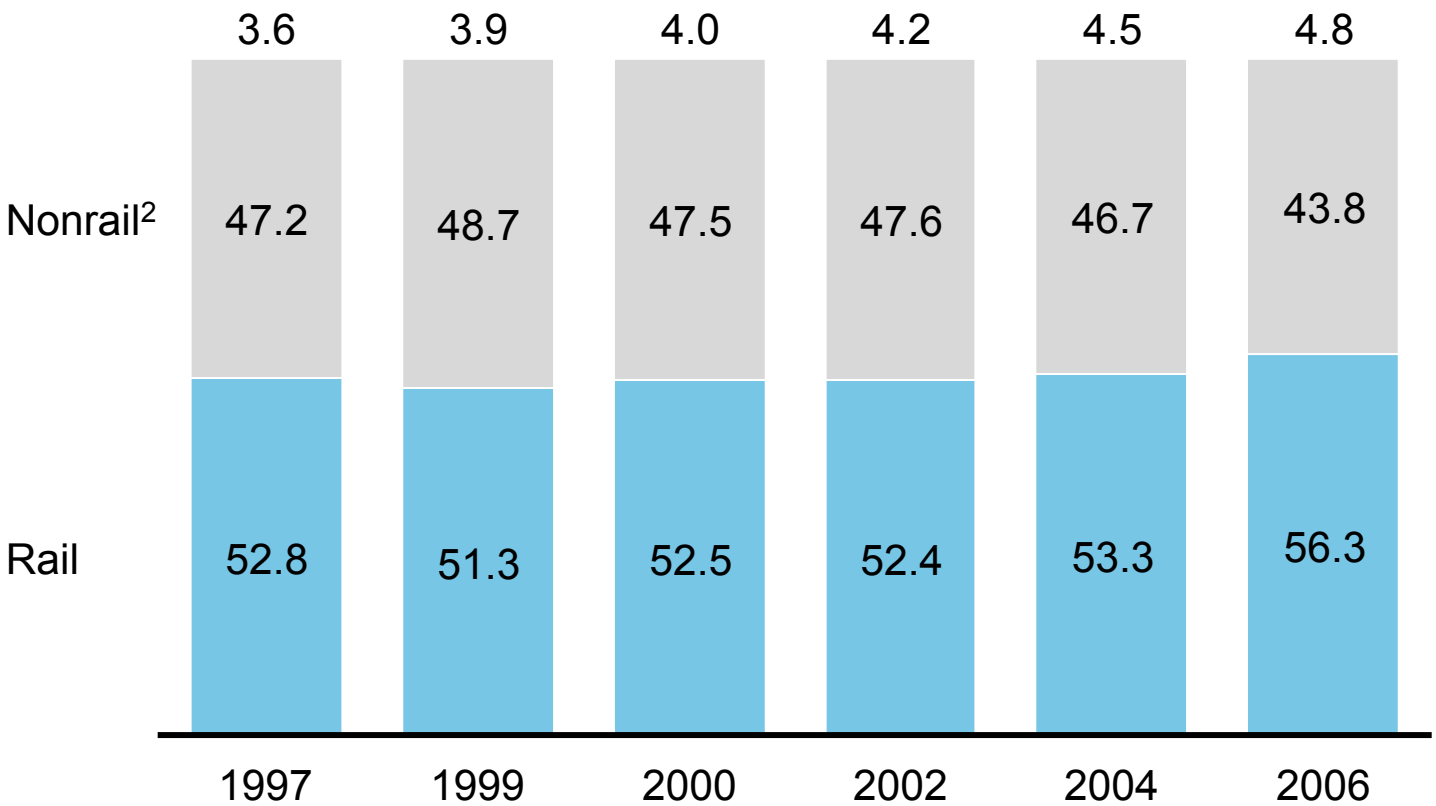

1 Total number of facilities

Source: US DOT; team analysis

# Rail and bus have similar capacity to carry passengers across US cities

## Urban capacity-equivalent revenue vehicle miles[1]

Percentage of billion miles




**Bus comprises 95.1% of total system coverage due to its route flexibility**

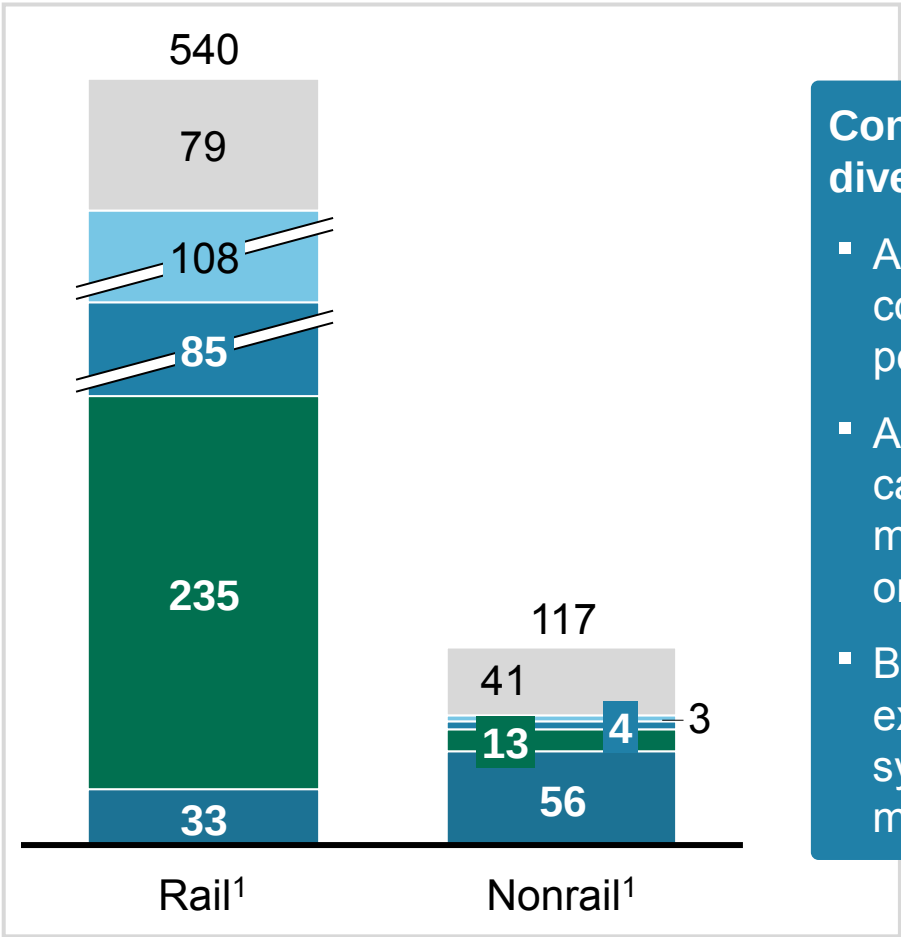
1 Transit system capacity is typically measured by capacity-equivalent vehicle-revenue miles, which measure the distance traveled by transit vehicles in revenue service, adjusted by the passenger-carrying capacity of each transit vehicle type

2 Non-rail is ~ 80% bus, the remaining 20% includes demand response, vanpool, ferry boat, trolley bus, and other non-rail

Source: US DOT; team analysis

# However, rail capacity is extremely capital intensive – 5x more expensive than bus

Replacement value 2006, USD Billions




## Construction costs also diverge

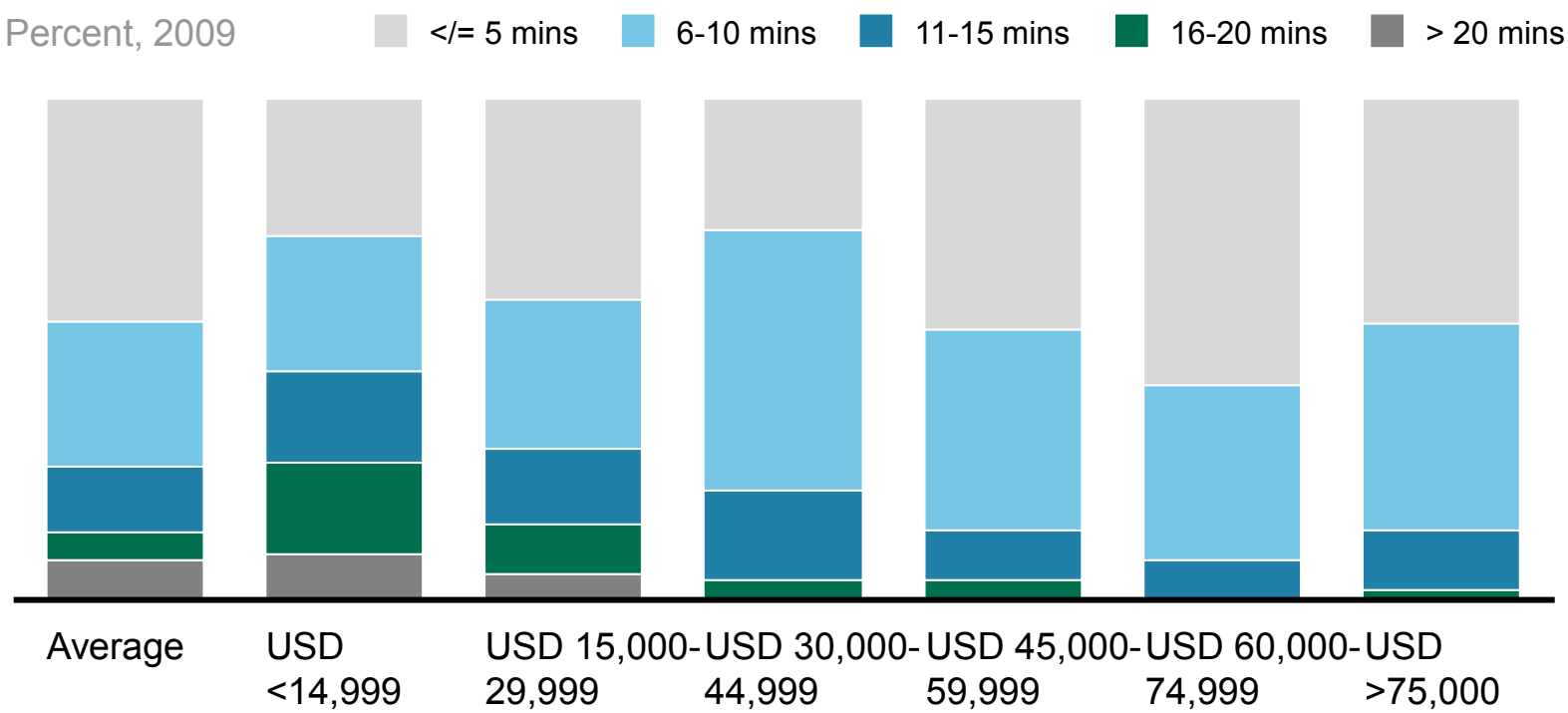
- A typical heavy rail system can cost USD 200 million or more per mile to construct
- A typical light rail system can cost USD 70 million per mile
  or more
- By contrast, the most expensive bus-rapid-transit systems cost around USD 25 million per mile

1 Non-rail is ~ 80% bus, the remaining 20% includes demand response, vanpool, ferry boat, trolley bus, and other non-rail

Source: US DOT; team analysis

# Low-income residents have higher transit wait-times as they are often unable to substitute transit with more convenient options

## Passenger wait-time according to household income

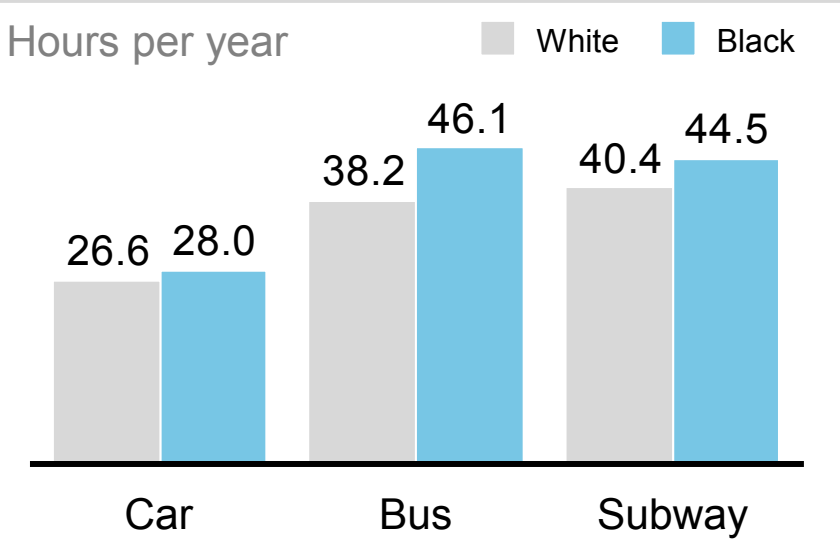



- High income riders tend to be "choice" riders who primarily ride transit on modes, routes, and at times of day when the service is frequent and reliable – and who generally substitute the use of personal automobiles for trips when these conditions are not met
- Low-income riders are more likely to use transit for basic mobility and have limited alternative, therefore transit is used even when the service is not as frequent or reliable – this longer wait time has a disproportionate affect on low income shift workers

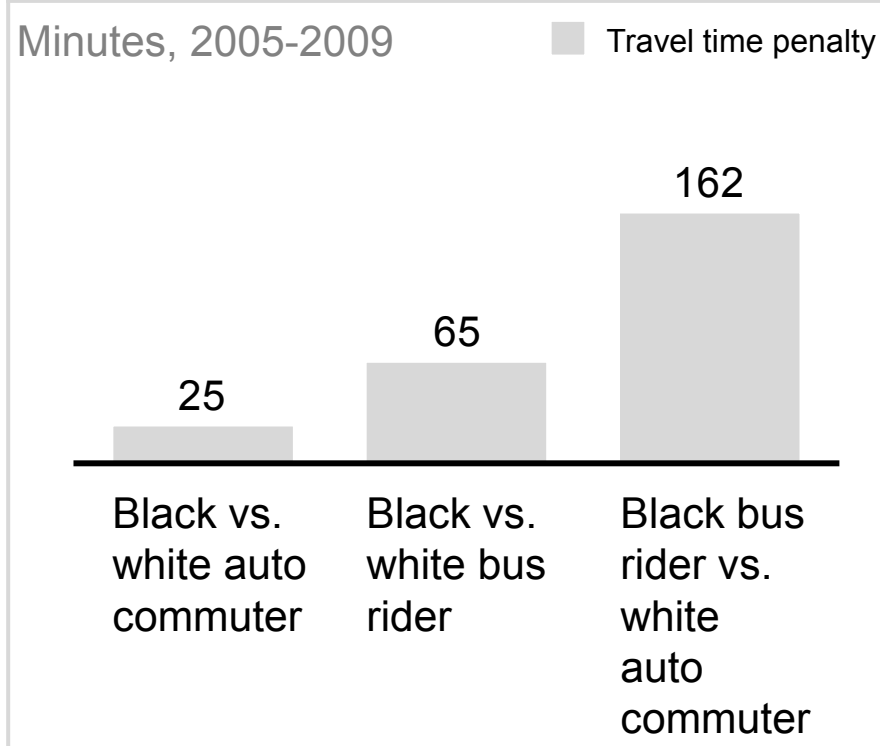
Source: US DOT; National Transit Household survey; team analysis

# Travel outcomes are worse for racial minorities in cities

## Annual hours of "excess" commute time




## Mean travel time to work, in Greater Boston



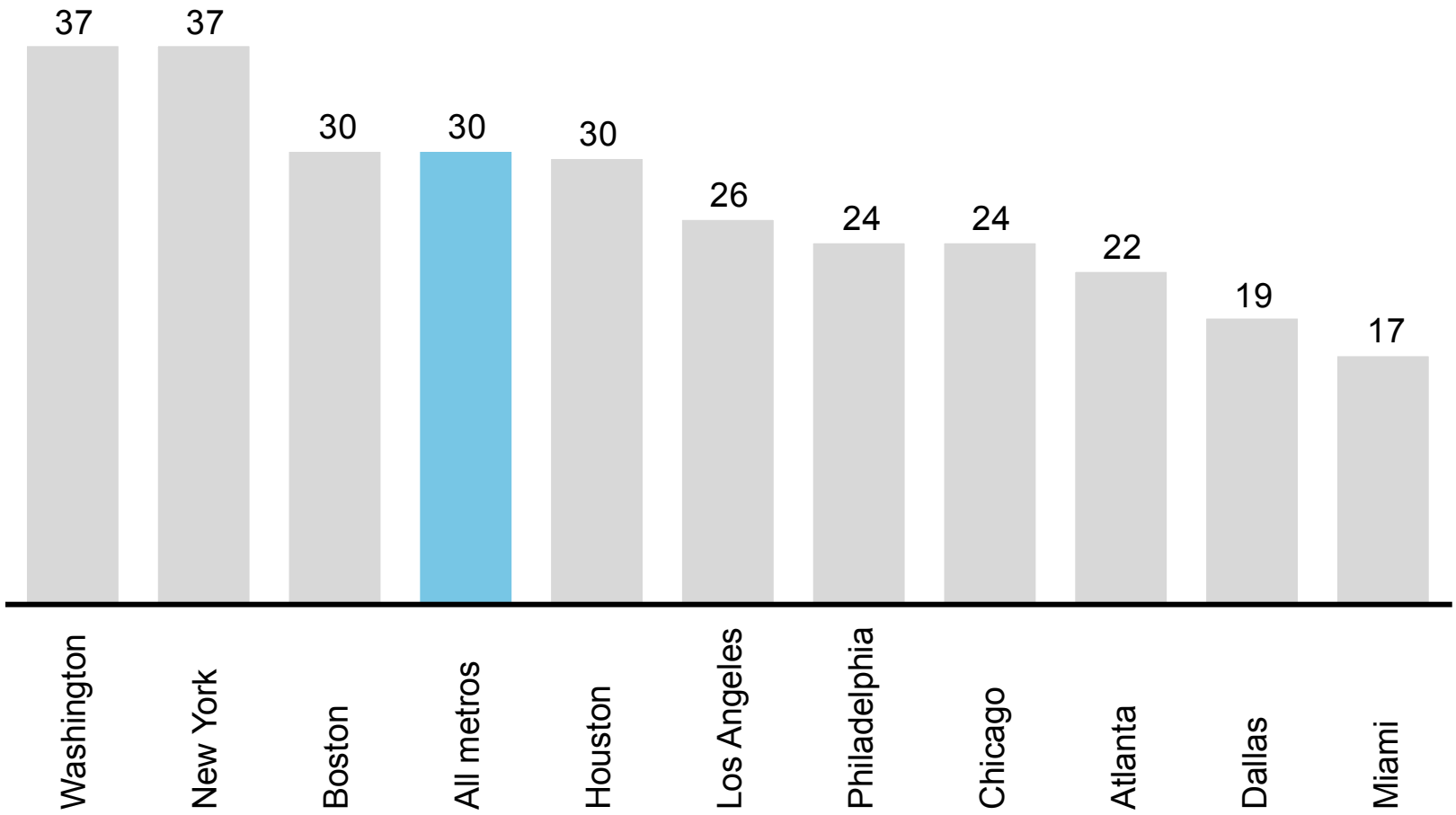

1 Low-income African-American populations have to travel longer distances to places of work and to receive services Low-income areas are underinvested in and have poorer quality of transportation– increasing unreliability

Source: Stephanie Pollack, Dukakis Center for Urban and Regional Policy 2012

# Low income people are living further from the urban core and have diminished access to transportation

## The majority of jobs are not located near to public transit

Percent of jobs accessible by public transit




Source: Urban Mobility Report by Brookings Institute; team analysis

# Infrastructure

## Current and future trends

- A Transportation preferences
- B Declining performance outcomes
- C Public transit fiscal condition trends
- D Low-income travel outcomes

## Solutions cities are pursuing

- D **Technology-enabled traffic management solutions**
- E **Flexible and targeted transport systems**
- F **Innovative finance mechanisms**
- G **Effective governance bodies**

# Cities are addressing infrastructure challenges by developing new approaches in management, governance and financing

NOT EXHAUSTIVE

| Solutions cities are pursuing | Examples |
|---|---|
| E **Existing infrastructure** – cities are adopting **better technology-enabled traffic management** | ▪ London's congestion pricing<br>▪ DC's NextBus App |
| F **New infrastructure** – cities are developing **new flexible and targeted transport systems** to drive outcomes (e.g., bus rapid transit and light rail) | ▪ Bogota's bus rapid transit system<br>▪ DC's H Street streetcar initiative |
| G **Financing** – cities are developing more **innovative approaches**<br>- Cities are engaging private sector in PPPs<br>- Cities are better leveraging federal financing | ▪ Emirates' delivery of new cable car system across the Thames<br>▪ Infrastructure Australia uses several strategies including innovative PPPs, pension funds and sovereign wealth funds |
| H **Governance** – cities are increasing **collaboration across bodies and with the private sector** | ▪ Minnesota's Itasca group<br>▪ Infrastructure Australia |

Source: Team analysis

# E Cities are pursuing technology enabled traffic management

**Better managing traffic systems**

- Cities are adopting **real-time traveler information** to allow travelers to decide how they use the transportation system
- Cities are adopting **improved signal timing and coordination** - e.g., SCATS (Sydney Coordinated Adaptive Traffic System) which is now used in 35,000 signals across cities including Hong Kong, Shanghai, Tehran, Kuala Lumpur, Mexico City, and Dublin and has achieved in New South Wales
  - 37% decrease in total travel time
  - 21% decrease in total stops
  - 6% decrease in CO2 emissions and 10% decrease in PM10 emissions
- Cities are also using **traffic incident management** to detect and respond to traffic incidents as quickly as possible - e,g. NYC's Midtown in Motion which uses field sensors, RIFD readers and cameras at 23 intersections to transmit information real-time and responds to traffic incidents

**Road pricing**

- There has been a shift towards **congestion pricing** along major transportation corridors that experience high-level congestion – e.g., London, Sydney, Milan, Singapore, Stockholm and domestically, California, Minnesota, Washington, Colorado, Utah, Florida, Texas, New Jersey, New York

**Adding capacity**

- Using technology, cities are choosing to **open or close lanes** to better manage traffic flow – e.g. Sydney's harbor bridge uses electronic lights to change the direction of traffic to manage congestion

Source: US DOT Conditions and Performance 2008, New South Wales government; Midtown in Motion; team analysis

# E DOT estimated that if congestion pricing was used, highways performance outcomes could be maintained while improving the budget by a net USD 27 billion

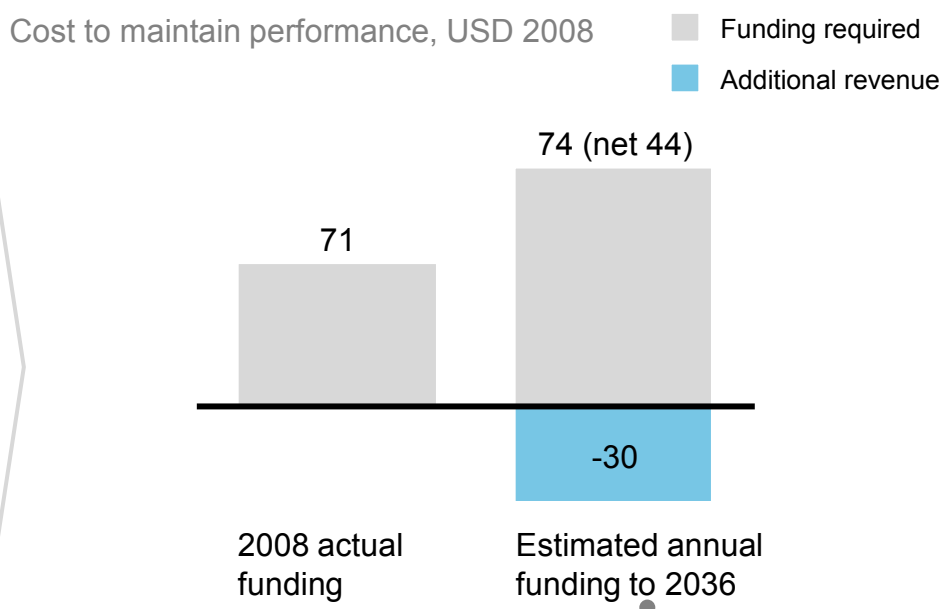
## Context

- DOT conducted modeling in 2008 on the effect of introducing a variable pricing (e.g., congestion pricing) on highways
- Modeling estimated what level of funding would be required to sustain current performance outcomes
- Variable pricing is estimated to result in a USD 27 billion improvement in net costs
  - Current annual funding is USD 74 billion
  - Required net annual funding would be USD 44 billion

## Assumptions

- Future funding is spent rationally – i.e. on projects with the most favorable cost-benefit analysis
- Congestion pricing changes user travel preferences
- 2006 modeling numbers adjusted to inflation to match actual funding

## Estimated budget affects of moving to variable pricing – assuming performance is held constant



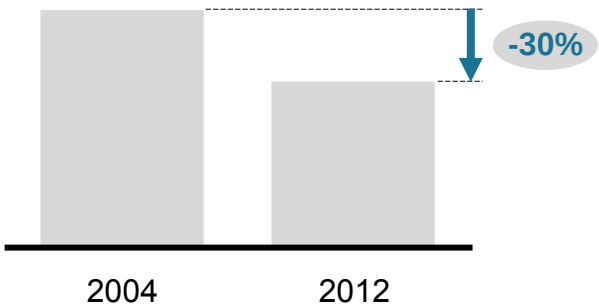

Variable pricing is estimated to raise USD 30 billion in additional annual revenue- a net USD 27 billion improvement

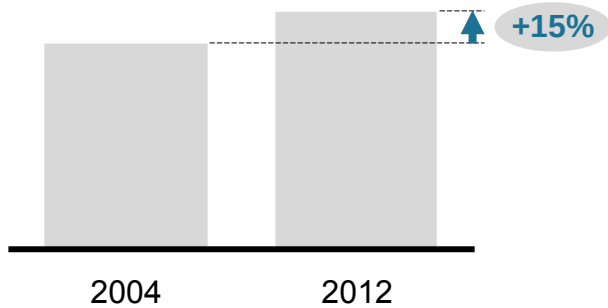
**In general, a 10% to 14% decrease in traffic on congested freeways will reduce delay by approximately 75 to 80%**

Source: US DOT Conditions and Performance 2008; National Transit Household survey; team analysis

# E Cities can improve performance through incentives and pricing, while managing equity

## London congestion charge markedly improved outcomes




**Decreasing congestion has also increased efficiency of public transit**

- Bus reliability has increased by over 25%
- Peak time bus speeds have increased by 20%

## Puget Sound Regional Council project

- Launched in 2005 and included 275 Seattle-area households which paid variable tolls linked to congestion levels, in lieu of a gas tax
- Objective was to study the feasibility of replacing a state gas tax with a congestion charge
  - In 7% reduction of total trips taken
  - 12% reduction in WMT
  - 8% reduction in total minutes driven
  - Estimated to generate USD 87 billon in current dollars over 30 years

## Congestion pricing and managing equity

- Equity can be managed through measures such as subsidies based on income, travel vouchers, and reimbursement schemes
- A economic study on Los Angeles found that if a 5-cent vehicle-miles-traveled free were to the lowest income quintile (i.e., 20 percent of users) would bear only 7% of the financial burden, whereas the highest income quintile would bear 35 percent of the financial burden



Source: Road pricing and congestion charging – implementation challenges, Derek Turner Consulting; team analysis

# F Cities are adopting new infrastructure to provide affordable, and flexible transport outcomes

## Bus rapid transit (BRT) is emerging as a potential solution

### Context

- BRT system has been adopted in 83 cities worldwide, including Guangzhou
- To date, 5 U.S. cities use BRT for parts of their public transit systems, including Los Angeles, Cleveland, and Eugene. 8 to 10 other systems are under construction, including routes in San Francisco and Chicago

### Case examples

**Curitiba**

- World's first BRT system
- 2.3 million residents use the bus to commute
- 544 92-foot long buses are powered by soybean biofuels
- Has helped create lowest levels of air pollution in Brazil

**Sydney**

- Has created dedicated lanes, all fares are pre paid with limited stops
- Gives signal priority to buses running late to keep traffic moving and help commuters on time
- Created a 37% decrease in reach their destination total travel time; 6% decrease in $CO_2$ emissions

### Pros

- Lower cost
- More flexibility to adjust to changing commuting patterns

### Cons

- Lack of continuity in pedestrian facilities along route
- Requires extensive public outreach to address service design and location of bus stands


Jakarta, Indonesia


León, Mexico


Bogotá, Colombia


Beijing, China


Paris, France


Curitibá, Brazil


Quito, Ecuador


Xiamen, China

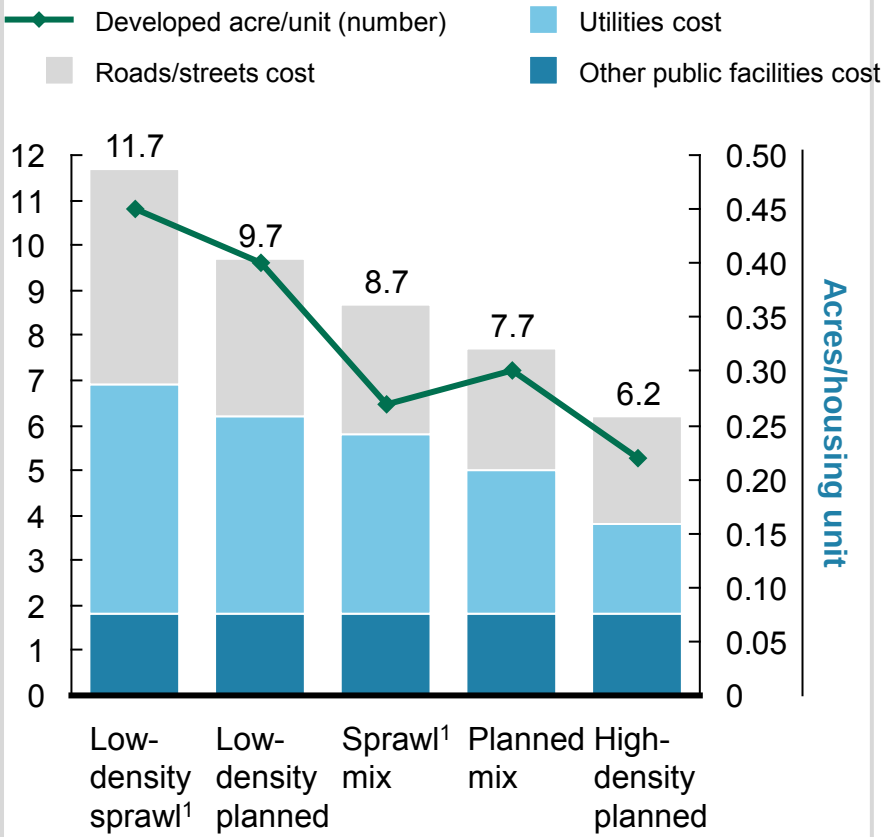
Source: Online news articles; team analysis; McKinsey analysis

# F Cities are adopting policies to encourage densification in transit-oriented areas

## Increasing density can help in reducing unit infrastructure costs

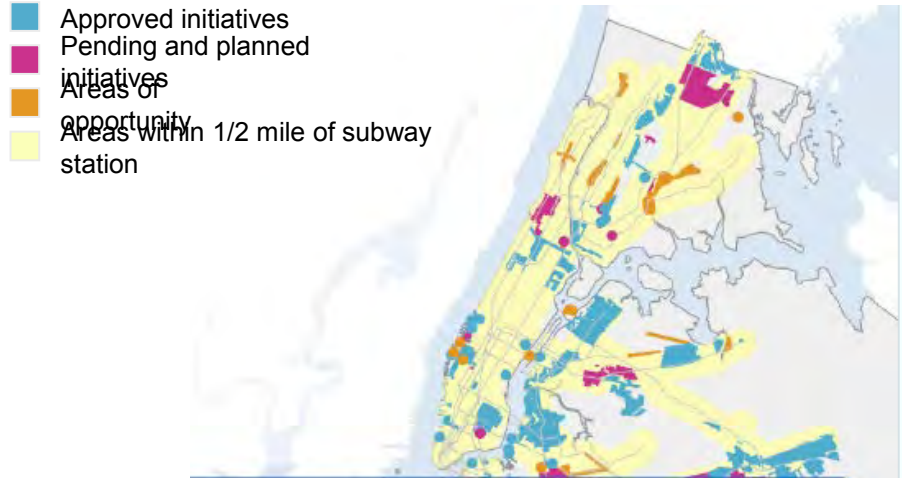
### USA: Public infrastructure capital cost by density

US$ '000, cost per housing unit




## High density in more transit-oriented areas can improve living standards

### New York City – Recent, planned and potential initiatives to increase capacity for residential growth




- ~70% of New York City population lives in areas within 1/2 mile of transit
- With targeted zoning since 2007, almost 90% of new housing has been developed within 1/2 mile transit

- Encouraging **density growth in transit-oriented areas** (vs. car-dependent) helps **reducing congestion, improving** the **environment** (e.g., air pollution), and overall **livability**
- The primary tool to achieve this is **zoning**

1 Sprawl is defined as development that expands outward from the solidly built-up core of a metropolitan area in an unlimited and noncontiguos way; residential and nonresidential development are for the most part spatially segregated from one another

Source: "The Cost of Sprawl," Transit Cooperative Research Program, Transportation Research Board Executive Committee 1998, Demographia World Urban Areas & Population Projections; plaNYC April 2011; team analysis

# G PPPs have successfully delivered a range of benefits, e.g., cost, time, and quality

UK EXAMPLE

## PPPs have demonstrated significant success …

UK Audit Office shows PPPs as **good value for money** – meeting budgets and schedules

Operational review of PPPs shows that 66% of public-sector managers report **good/very good service**

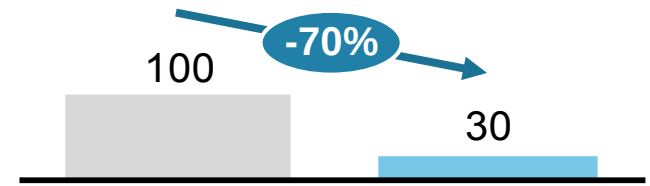
The 30 most recent privately financed UK hospitals demonstrated an average **savings** of GBP 29 million vs. publicly operated

A 2008 report showed a statistically significant correlation between PPP school projects and **improved** educational **outcomes**

## … for example, in the UK, in meeting budgets and delivery schedules

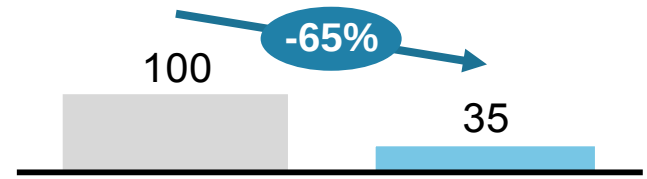
**Meeting budgets**

Budget overruns[1],% of projects



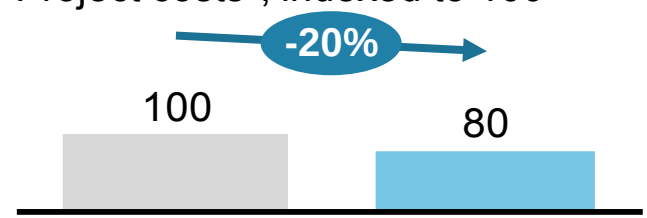

**Meeting schedules**

Time overruns, % of projects




**Reducing overall costs**

Project costs[2], indexed to 100




1 Construction costs
2 Operating and capital costs over the asset life cycle

Source: NAO (2003); HMT (2008); ATRS; government studies; literature search; KPMG; team analysis

# G More effective use of limited federal funds can enable more efficient public and infrastructure financing

| Credit mechanism | Description | Current status |
|---|---|---|
| ▪ The Transportation Infrastructure Finance and Innovation Act (TIFIA) | ▪ Provides ~USD 2 billion/year federal credit assistance in the form of direct loans, guarantees, and lines of credit for transportation projects<br>▪ In recent years, projects have increasingly included a private equity component | ▪ Demand for program now regularly exceeds budgetary resources after years of underutilization<br>▪ DOT has begun establishing a competitive system where proposed projects are evaluated against program objectives |
| ▪ Private activity bonds (PABs) for surface transportation | ▪ Tax-exempt bonds issued by or on behalf of local or state government for the purpose of financing the qualified projects of private users<br>▪ Capped at a total of USD 15 billion | ▪ PABs are increasingly being combined with TIFIA, particularly for toll-road projects<br>▪ Program could be more aggressively extended to freight sector |
| ▪ Infrastructure Bank (e.g., Chicago model) | ▪ Would provide billions in loans and loan guarantees for infrastructure projects of regional or national significance<br>▪ Would be used towards the construction of roads, bridges, water systems, and power grids | ▪ Launched in Chicago<br>▪ Discussing launch on a national scale |

Source: US DOT Federal Highway Administration 2008; expert interviews; team analysis

# G Government-sponsored credit mechanisms have been leveraged to reduce the cost of capital

## Case example: Capital Beltway Project

**Project description**

- USD 1.4 billion landmark surface-transportation project involving the Virginia DOT and its private partners
- Largest private-sector equity investment in a US new-build toll road public-private partnership
- First to use tax-exempt PABs[1]
- Private partner granted rights to design, build, and operate HOT lanes


**Financing terms**

- Combined 2 innovative, federally sponsored financing options (authorized under SAFETEA-LU) in a single deal to reduce cost of capital for a private investor
  - USD 589 million of 40-year senior-lien tax exempt PABs at 4.97%
  - USD 525 million in subordinate TIFIA[2] federal credit assistance at 4.71%
  - Rest of project funded by private equity

**The terms of financing lowered the debt cost of capital by more than two and half percentage points, resulting in USD 30 million in year 1 savings**

1 Private Activity Bonds (PABs) are tax-exempt bonds issued by local or state governments for the purpose of financing qualified projects of private users

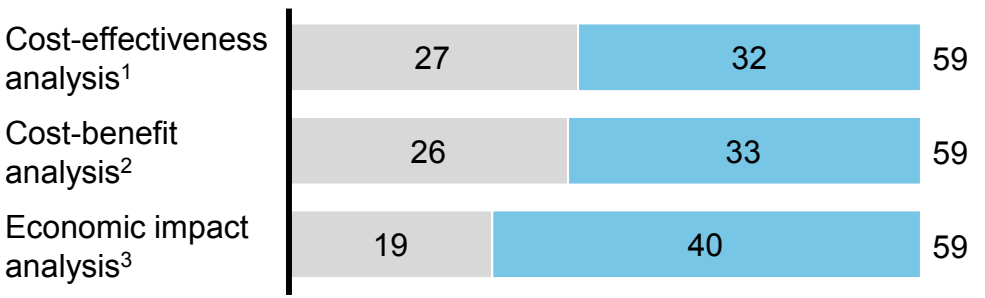
2 The Transportation Infrastructure Finance and Innovation Act (TIFIA) provides federal credit assistance in the form of direct loans, loan guarantees, and standby lines of credit to finance surface transportation projects deemed by the Department of Transportation to be of national or regional significance

Source: US DOT Federal Highway Administration 2008; team analysis

# H Rigorous analysis is seldom conducted to ensure that the most appropriate transport solutions are adopted

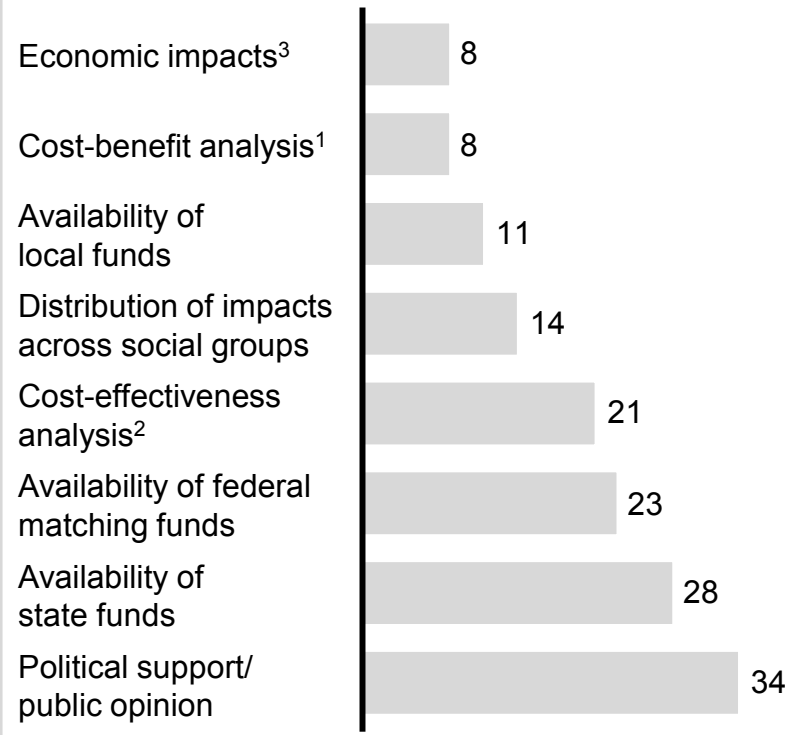
## Survey responses reveal rigorous analysis is seldom conducted

Number of participating agencies




## Even when conducted it is not a significant factor in decision making

Number of agencies that were ranked to have great/very great importance




1 Cost-effectiveness analysis helps to identify the lowest cost alternative for achieving a level of benefit
2 Benefit-cost analysis helps to identify the alternative with the greatest net benefit by comparing the monetary value of benefits and costs of each alternative
3 Economic impact analysis helps to identify the impact of alternatives by measuring the effects derived from each alternative

Source: GAO Benefits and Costs of Transportation Investments; GAO survey of state DOTs and transit agencies, October 2004; team analysis

# H Australia provides an example where infrastructure governance bodies includes partnerships between government, academia and the private sector

**Scope of body**

- Addresses reform, policy, pricing, and investment strategies for road, rail, energy, water, and broadband markets
- Addresses finance and revenue strategies, including the use government funding, user pays, PPPs, pension funding, and sovereign wealth funding

**Role**

- Establishes national infrastructure priorities, by conducting cost-benefit analysis to determine highest return investments, and recommends these for funding
- Liaises with federal and state governments, private sector players, and academia in considering policy recommendations and specific infrastructure projects

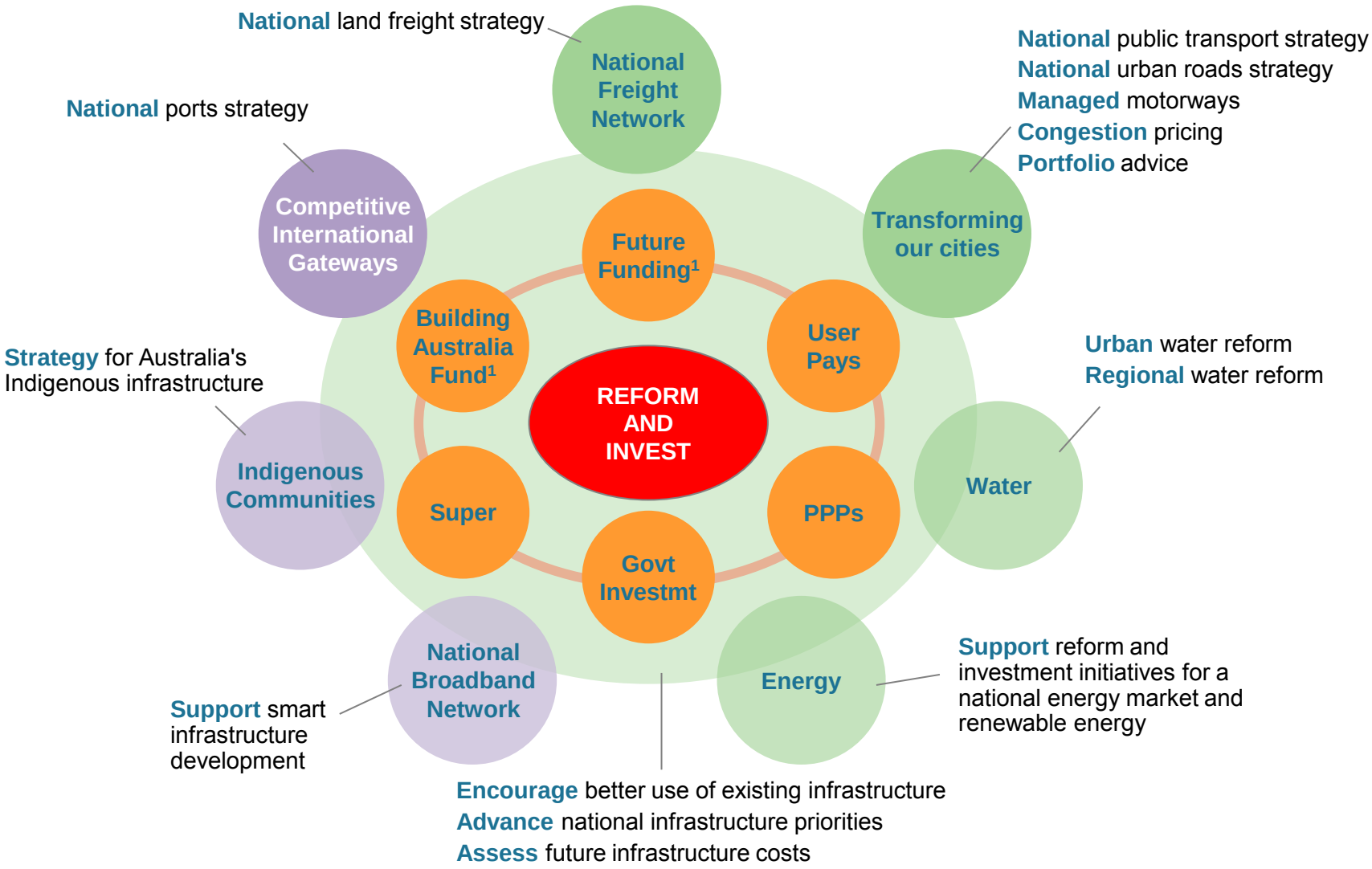
**Membership**

- Over half of the board is from the private sector
- The remaining board members are from academia or have public service backgrounds

**9 key goals of Infrastructure Australia**

1. **Delivering better governance -** inefficiencies adversely impact operations
2. **Creating competitive markets-** regulatory complexity impedes the operation of efficient markets
3. **One nation, one set of rules-** inconsistent legislation impedes productivity
4. **Better usage of existing infrastructure-** changes in the utilization of existing infrastructure
5. **Addressing climate change-** increasing demand for improved infrastructure, such as efficient public transport systems
6. **Supporting our cities-** improving the livability and sustainability of Australia's major cities
7. **Boosting exports-** increasing productivity of Australia's international gateways
8. **Supporting indigenous communities-** improving infrastructure in remote and regional indigenous communities
9. **Supporting rural communities-** improving the quality of life in rural communities

# H Infrastructure Australia has identified 7 themes to provide a framework for action to meet the gaps, deficiencies, and bottlenecks




1 Types of sovereign wealth funds

# H Cities are pursuing innovative governance mechanisms to drive transport outcomes

## Cities are pursuing localized solutions

- Fiscal pressures are seeing federal and state governments devolve responsibility to city governments
- There is a growing awareness that infrastructure can drive economic development
- There is also an acknowledgement that cities need to pursue more collaborative, regional solutions to be efficient
- Federal grant processes (e.g., DOT's TIGER program) are creating incentives in their applications for city authorities to collaborate

## Case examples

- **Portland -** developed the nation's only directly elected regional government, Metro, with legal authority over regional land use and transportation in 3 counties and 25 cities
- **Twin Cities-** 7 counties that compose Twin Cities' region share tax revenues. 40% of each county's property tax is redistributed within the region based on population. The region's Metropolitan Council drives economic development and transit
- **California's innovative planning law to reduce pollution of greenhouse gases-** empowers metropolitan regions to exercise greater influence over regional land use and transportation



Source: US DOT Federal Highway Administration 2008, team analysis, Atlantic cities blog

# Contents

# City budgets have dramatically reduced while their responsibilities continue to increase

## A Cities face declining revenues

- **Shrinking tax base**
  - Property tax is expected to decline by 3.7% in 2012
  - 2011 income tax receipts decreased by 1.6%
  - 2010 experienced an 8.4% decrease in sales tax – the worst decrease in 15 years
- **Reduced federal and state government funding**
  - In 2011, 50% of cities reported reductions in general aid, 49% in shared revenues, and 32% in other transfers
  - American Recovery and Reinvestment Act (ARRA) expired, reducing state transfers to cities

## C City governments are taking on additional responsibilities

- State and federal governments are devolving responsibility to cities (e.g., California has shifted responsibility for various mental health programs, child care, and adult protective services)

## E Municipal budget pressures

*are leading cities to reduce service levels and personnel, delay capital projects and increase fees – disproportionately affecting low income residents*

## D Increasing demand for services

- Increasing number of citizens who are dependent on city resources
  - High unemployment
  - Aging population
- Technology is raising expectations for transparency and productivity

## B Cities face increasing costs

- **Ballooning pensions**
  - NYC pension costs rose 5x over the last 10 years and will consume ~30% of workforce expenses by 2013
- **Increased healthcare costs**
  - Constitutes ~14% of the average city budget
  - MA's cost of municipal health care is ~ USD 1 billion
- **Aged infrastructure**
  - 70% of cities report rising infrastructure costs
  - More than 20% of US bridges are obsolete or deficient



Source: American Society of Civil Engineers; Brookings; National League of Cities; Massachusetts Department of Revenue

# Municipal fiscal strain

## Current and future trends

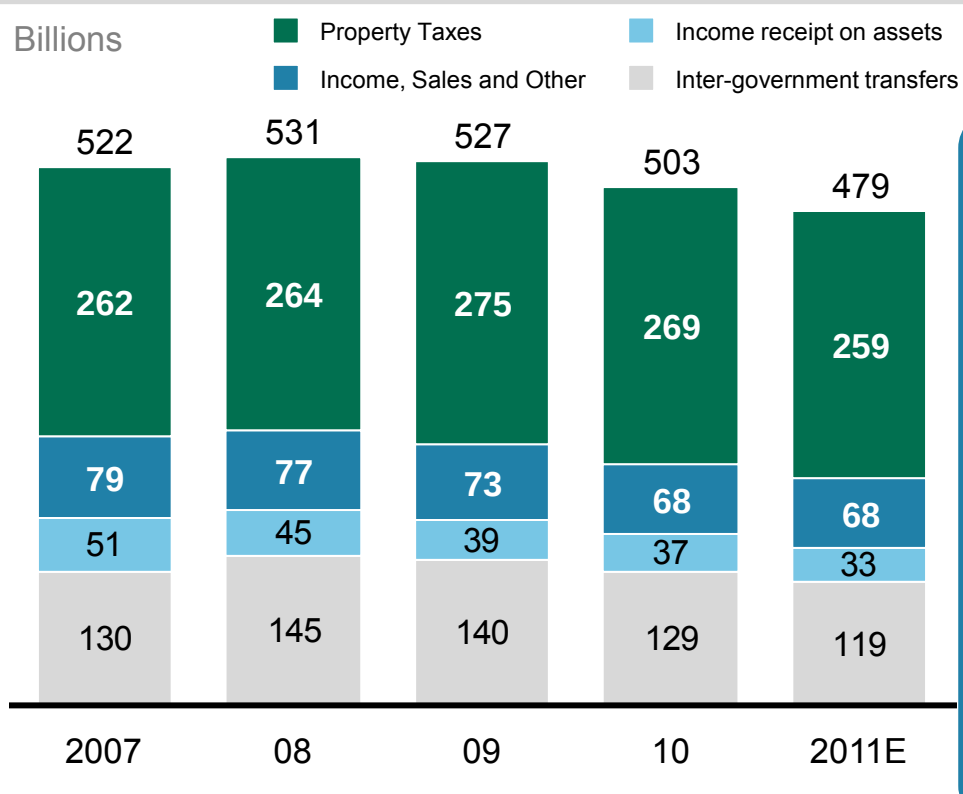
- **A** Declining revenues
- **B** Increasing costs
- **C** Additional responsibilities

## Solutions trends

- **E** Cities are responding to budget shortfalls by
  - **E1** Increasing revenues and reducing projects and services
  - **E2** Innovation and effectiveness
  - **E3** Financing and leveraging partners

# A Cities face declining revenues from a shrinking tax and fee base and reduced federal and state funding

## Shrinking tax and revenue base for cities

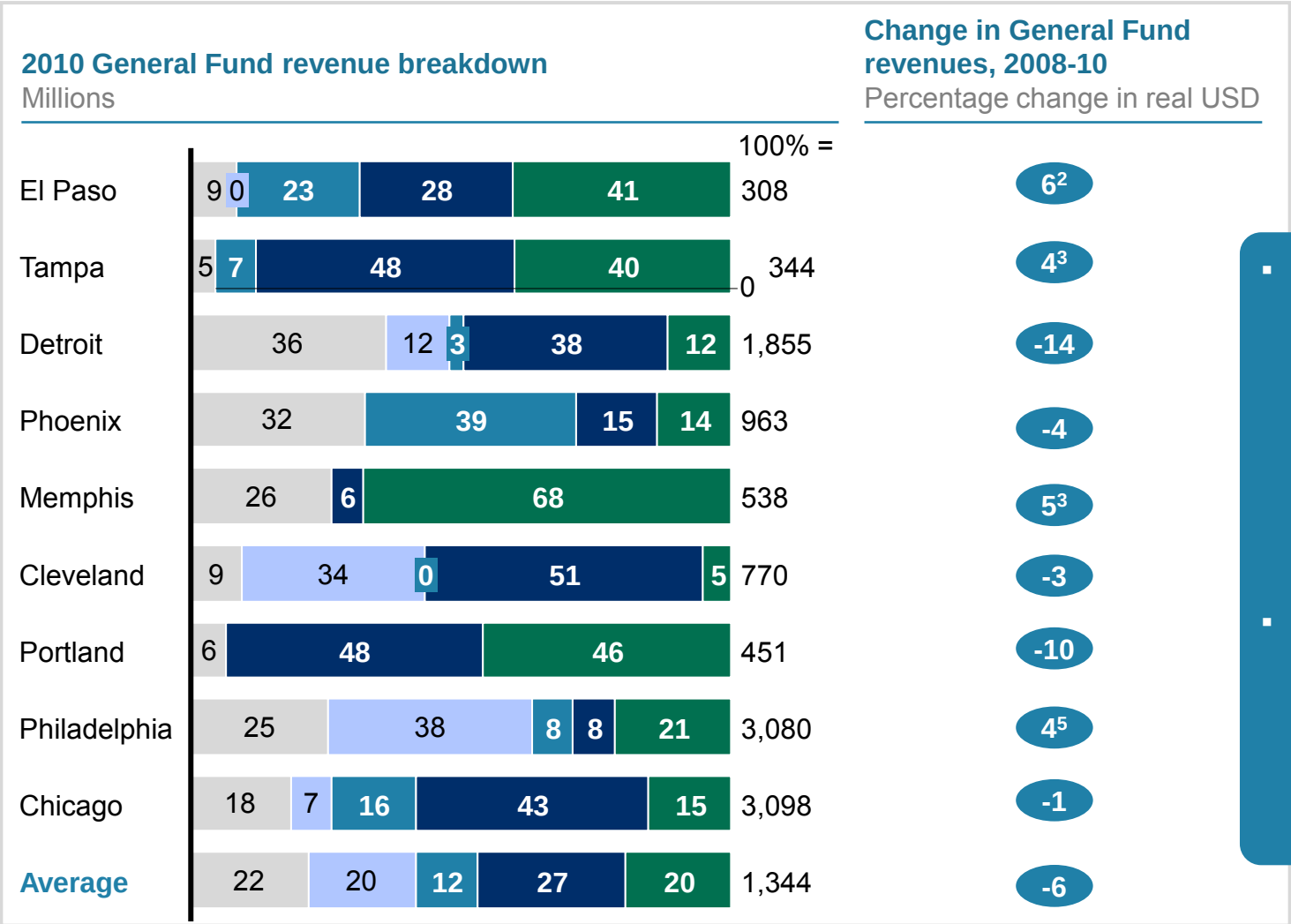



- **Leading indicators suggest city revenues will begin to stabilize at 2013 levels and follow national economic trends**
  - Real estate values have stabilized with mild increases projected over the medium term
  - 2011 year-on-year sales tax collections are positive and income tax collections are trending upwards

Property taxes expected to decline through 2013 as effects of decreased property values are felt

Source: American League of Cities "City Budget Shortfalls: 2010-2012 Projections"; Center on Budget and Policy Priorities; Tax Policy Center; Home Data Index Market Report; team analysis

# A These revenue decreases are having markedly different effects on individual cities[1]



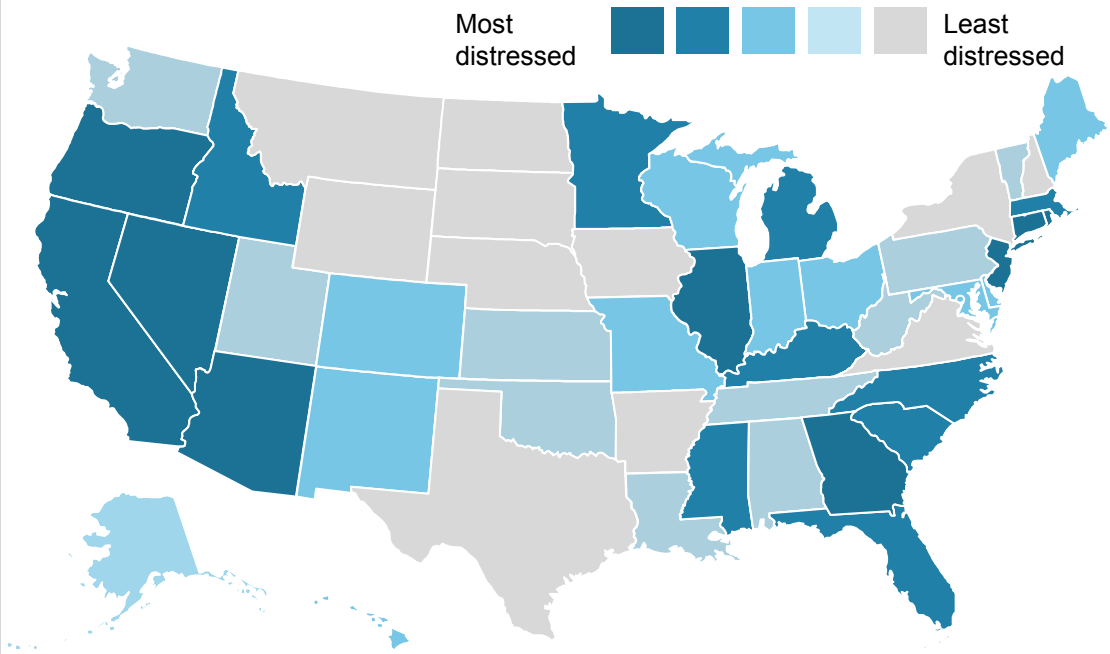

- Cities dependent on sales and income taxes generally experienced sharper revenue reductions during 2007-10, with some cities now rebounding
- Revenue declines lagged in cities dependent on property taxes – they are expected to continue for the next 1-3 years

1 Selected as representative cities per archetype
2 Declined 3%, from 2009-10
3 Property tax declines of 16% were offset by additional government transfers and increased fees and fines
4 Beginning to decline in 2010
5 Overall tax revenues declined 6% from 2008-09 offset somewhat by increased transfers
Source: Respective cities 2008 and 2010 proposed budgets; team analysis

# A States face continuing financial pressures; however, there are some signs of stabilization

## Relative financial distress[1]

State ranking by quintile, 2010




## Some states are beginning to show signs of stabilization

- Leading indicators reflect **slow, but steady improvement** in state fiscal conditions
  - Revenues met or exceeded expectations in most states in the first 8 months of FY 12
  - A number of states are projecting small unobligated balances at the year end
  - Few states faced midyear budget shortfalls

**Longterm pressures remain substantial**

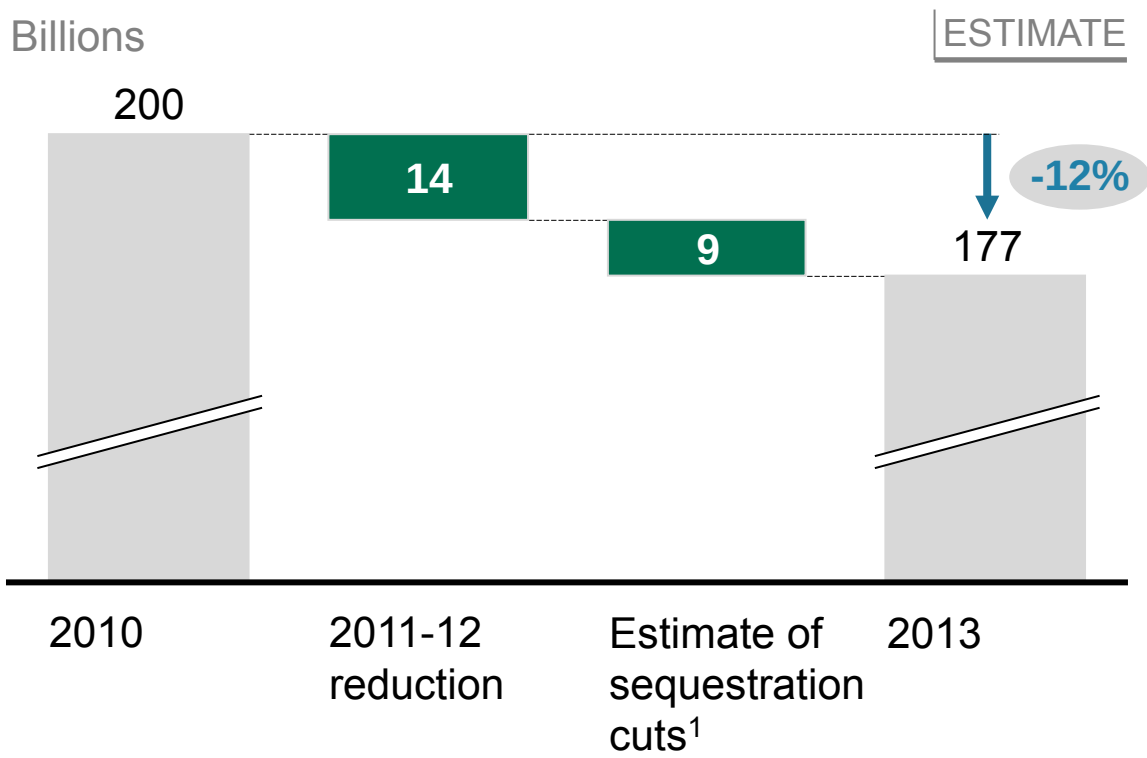
- Federal deficit reduction actions could cut state revenues
- Weak labor market
- Growing spending pressures

1 State rankings and quintiles based on: 3-year cumulative budget gaps; debt as a percentage of gross state product (GSP); unfunded pension liabilities as a percentage of GSP; the tax burden placed upon its citizens; unemployment; recent declines in personal income; and recent declines in GSP

Source: TCW, "Municipal Credit Brief 4: The State of the Big Four States" 4/11/2011; National Association of State Budget Officers; team analysis

# A Federal deficit pressures are leading to reduced intergovernmental transfers to states

## Projected cuts in federal transfers to states for major programs




- Assuming a similar sequestration effect on cities, **total General Fund revenues could decline by an additional 2-3%[2]** – equivalent to ~USD 10 billion in 2013
- These financial effects may cascade down to state transfers to cities

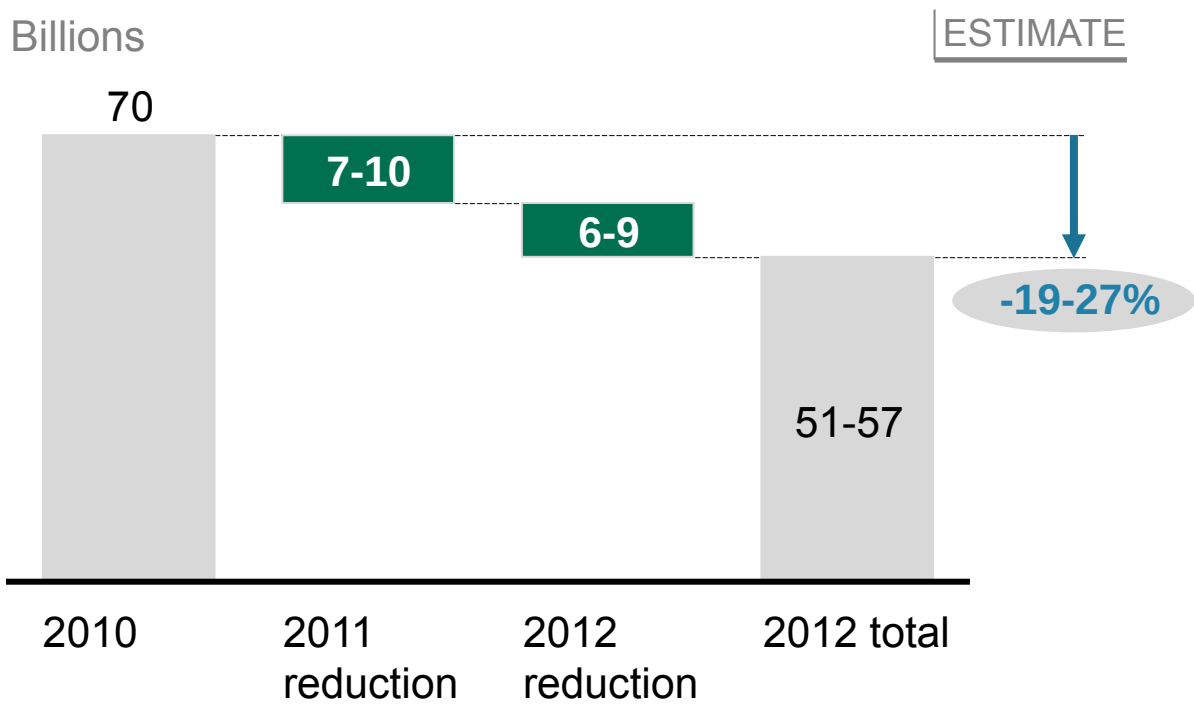
1 Federal Funds Information for States (FFIS) estimates ~9% of state spending will be subject to cuts from sequestration (assumes 20% of federal-state transfers are subject). FFIS argues this is the best-case scenario since it assumes federal agencies will have limited authority to decide where cuts are made and assumes no change in defense cuts

2 Assumes 9% reduction on intergovernmental transfers which currently average between 20-30% of municipal budgets

Source: FFIS, February 2012; Center on Budget and Policy Priorities; team analysis

# A Similarly, direct support from states to cities has declined and is not expected to fully rebound in the near term

## Projected cuts in state transfers to cities[1]




- Macroeconomic trends suggest state transfers to cities will not rebound for the foreseeable future
  - 30 states projected a USD 43 billion budget gap in 2013
  - Cities may face more cuts in state transfers with the expiry of ARRA and deficit reduction efforts



1 Conservative range estimated based on trends from 2001 recession

Source: American League of Cities "City Budget Shortfalls: 2010-2012 Projections"; Center on Budget and Policy Priorities; team analysis

# B Cities continue to face increasing costs

| | Description | City examples |
|---|---|---|
|  **Increased healthcare costs** | ▪ Rising healthcare costs are the **most common driver of increased municipal costs**, cited by 86% of city finance officers | ▪ In Massachusetts, total cost of municipal healthcare is USD 1 billion, constituting 14% of city budgets<br>▪ In California, health costs have increased 3x to $1.7 billion in 2012 – costs are expected to double in the next decade |
|  **Ballooning pensions** | ▪ Total **unfunded pension liability doubled from 2006-2009 to ~$700 billion**; and could rise to USD 1.2 trillion by 2013<br>▪ 41 states and many cities have either cut benefits or raised contributions<br>▪ Pension costs are the second most common driver of increased city costs[1] | ▪ In New York City, annual pension contributions increased 5x to USD 8 billion and will consume ~30% of workforce expenses by 2013<br>▪ In San Jose, retirement costs have tripled in the last 10 years, while the workforce dropped 28% over the period – the USD 2.7 billion unfunded liability has cost the city its AAA rating |
|  **Aged infrastruc-ture** | ▪ **Aged transport** – US rail fleet's average age is over 20 years<br>▪ **Aged utilities** – cities' water, electricity and sewage systems are aging<br>▪ Infrastructure costs are the fourth most common driver of increased costs[2] | ▪ Sherman Minton Bridge from Kentucky to Indiana was found deficient, closed immediately, and reinforced with 2.4 million pounds of steel<br>▪ More than 50% of the 300 cities questioned reported more than 50 burst water mains annually |

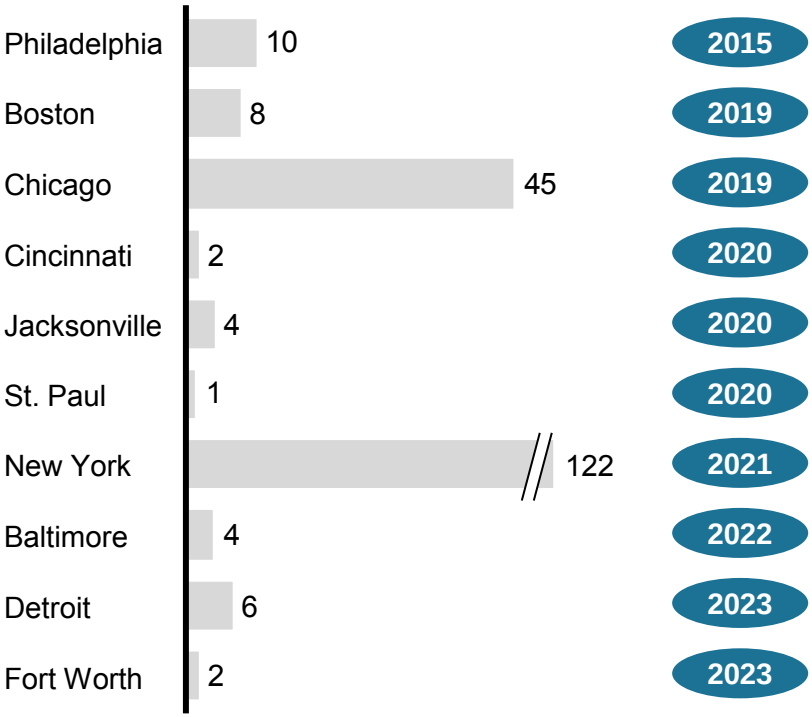
1 Cited by 84% of respondents in the National League of Cities 2011 Fiscal Survey
2 Cited by 70% of respondents in the National League of Cities 2011 Fiscal Survey

Source: Bloomberg; National Association of State Budgets; National League of Cities; Wall Street Journal; team analysis

# B Pension liabilities are a major concern for cities – many cities face insolvency if this issue is not addressed

## Several large cities may soon face insolvency due to growing pension liabilities ...

**Large cities with the most acute pension burdens[1]**
Billions




## ... which are under-funded, using unrealistic accounting, and beginning to regain investment losses

**Under-funding**

- In 2000, public pension plans were funded at 103%; this is projected to decline to **72% by 2013**, with some cities as low as 36%
- **To meet funding requirements**, cities need to increase the percentage of pension allocations from **4% to ~7% of their operating budgets** (historically, commitments have ranged from 3-6% of operating budgets)

**Account-ing**

- Current fiscal accounting **hides the extent of the liabilities** – if pension liabilities are discounted at realistic rates (4-5% vs. 8%), unfunded liabilities would be USD 1-3 trillion and **many cities would be verging on bankruptcy**

**Invest-ment losses**

- Capital market losses eroded pension plan assets by an average of 25% in 2008 – creating significant strain as most plans are structured to provide defined benefits
- As the economy improves, pension trust funds **are beginning to generate positive investment returns**

1 Sample size included 77 cities with more than 1 billion in pension assets; these cities cover approximately two-thirds of workers covered under muni plans
2 Solvency horizon refers to how long 2009 assets could pay promised benefits based on existing employee base (assumes annual 8% return is achieved)

Source: TWC "Municipal Credit Briefs"; Robert Novy-Marx and Joshua Rauh; "The Crisis in Local Government Pensions in the United States" 2011

# C Cities' budget pressures are being compounded by increased responsibilities

## State and federal governments are shifting responsibilities to cities

### Program area examples

**Police and safety**

- California recently shifted responsibility for the custody, treatment, and parole of convicted nonviolent offenders to local governments
  - Los Angles reassigned 150 police officers to monitor former inmates

**Education and health**

- The state of Washington is shifting responsibility for $37 million in public health programs to local governments

**Transporta-tion and infrastructure**

- North Carolina proposed shifting USD 57 million cost of school bus maintenance onto local governments
- Virginia proposed shifting secondary road maintenance to local governments

## Case example – Massachusetts

- In 2011, Governor Deval Patrick reduced municipal aid for the fourth year in a row, for a total cut of more than USD 500 million or 40%
- Resulted in cuts to police, fire, public works, and schools
- Massachusetts is also backing out of prior commitments
  - In 1970s, Massachusetts established a program to provide higher salaries for police officers with higher education degrees
  - State is responsible for 50% of the cost, but in 2011 made less than 10% of funds available, putting local governments on the hook for an additional $55 million USD


Source: Governing - The States and Localities; Massachusetts Municipal Association; Roanoke Times; team analysis

# Municipal fiscal strain

## Current and future trends

- **A** Declining revenues
- **B** Increasing costs
- **C** Additional responsibilities

## Solutions trends

- **E** **Cities are responding to budget shortfalls by**
  - **E1** **Increasing revenues and reducing projects and services**
  - **E2** **Innovation and effectiveness**
  - **E3** **Financing and leveraging partners**

# E As tax revenues fall short of projections and costs exceed expectations, many cities face budget shortfalls ranging from 2-16%

**A majority of cities report significant shortfalls in their General Fund at the beginning of their 2011 budget process**

| City | Projected short-fall/surplus Millions | Shortfall/surplus as percentage of current General Fund Percent | Shortfall/surplus in prior fiscal year[2] Percent |
|---|---|---|---|
| Chicago[1] FY 10 | -519.7 | -16.3 | -15.0 |
| Kansas City FY 11 | -65 | -12.5 | -14.9 |
| Phoenix FY 11 | -139.2 | -12.5 | -17.0 |
| Los Angeles FY 11 | -492 | -11.2 | -12.1 |
| Atlanta FY 11 | -48.5 | -9.0 | -9.8 |
| Baltimore FY 11 | -121 | -9.0 | -4.8 |
| New York FY 11 | -4,900 | -8.2 | -10.8 |
| Detroit FY 11 | -126 | -7.9 | -20.3 |
| Seattle FY 11 | -56 | -6.2 | -4.4 |
| Philadelphia FY 11 | -179 | -4.8 | -10.6 |
| Columbus FY 11 | -12.6 | -1.9 | -18.3 |
| Boston FY 11 | -42.2 | -1.8 | -5.8 |
| Pittsburgh[1] FY 10 | 8.5 | 1.9 | 6.5 |

1 Pittsburgh and Chicago operate on a calendar fiscal year and had not yet projected official budget shortfalls or surpluses for FY 11
2 Prior fiscal year was May 2009, prior to major gap-closing actions and excluding subsequent budget actions or shortfalls during the fiscal year

Source: Pew Charitable Trust, "Not out of the Woods: The Recession's Continuing Impact on Big City Taxes, Services and Pensions" May 2010

# E Cities are pursuing a set of interventions to mitigate fiscal strain

NON-EXHAUSTIVE

| | Solutions cities are pursuing |
|---|---|
| 1 Increase revenue streams | ▪ Increase **taxes** (e.g., Pittsburg increased its income tax and proposed a new tax on sugar-sweetened drinks)<br>▪ Increase or expand **fee base** (e.g., Baltimore proposed a USD 350 tax on nonprofit hospitals for occupied beds)<br>▪ Adoption of **differential** and **cost-based pricing** (e.g., pricing public transit based on actual costs)<br>▪ **Sale and leasing** of assets (e.g., Atlanta selling office space to a residential developer) |
| 2 Reduce services and projects | ▪ **Personnel cuts** (e.g., New York City's reduction of teachers and civil servants through layoffs and instituting a hiring freeze)<br>▪ **Service reductions** (e.g., Los Angeles made cuts across services including library hours, child care, and sidewalk repairs)<br>▪ **Postponing capital projects** and maintenance (e.g., the recent push to postpone California's USD 98 billion bullet train) |
| 3 Innovation and effectiveness | ▪ **Incentivize productivity** improvements (e.g., Chicago innovation fund)<br>▪ **Increase efficiency** of procurement and capital projects (e.g., New York's MTA under-took a procurement program in 2011 that realized USD 100+ million in annual savings)<br>▪ **Utilize big data and technology** to improve services and lower costs (e.g., Rio de Janeiro's Operation Center) |
| 4 Financing and leveraging partners | ▪ Raise **debt** (e.g., Detroit issued USD 250 million debt in 2011 to help cover 20% budget shortfall)<br>▪ **Utilize innovative financing** opportunities (e.g., Boston pursuing social impact bonds)<br>▪ **Engage social and private sector** through outsourcing, PPPs, and privatizing (e.g., Atlanta outsourced parking meter enforcement to close budget in 2010) |

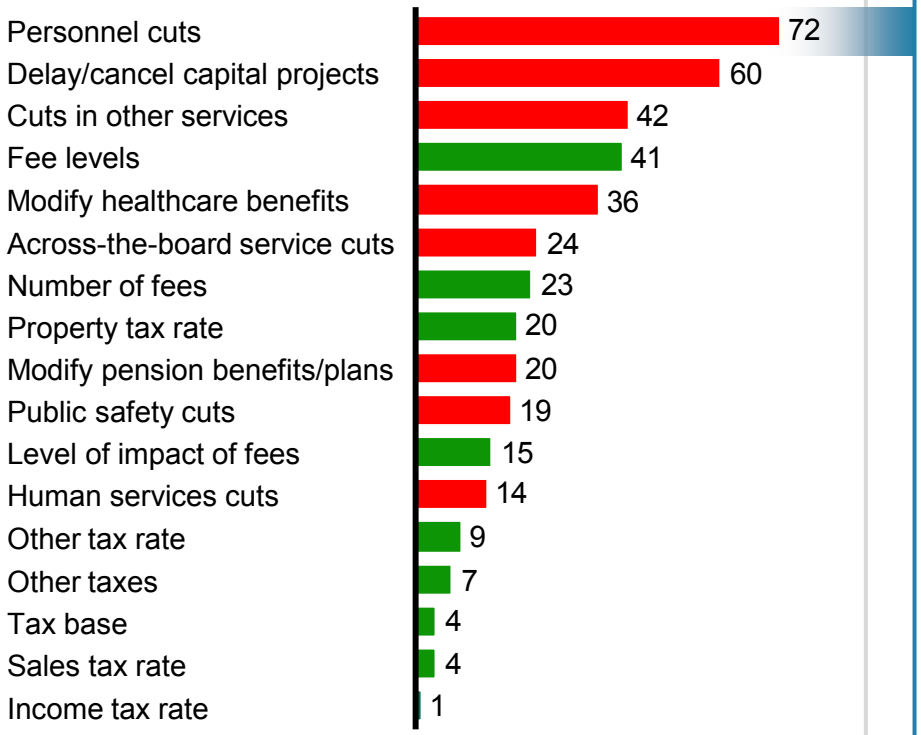
Source: Expert interviews; team analysis

# E1 Municipalities are responding by reducing service levels, cutting personnel, delaying capital projects, and increasing fees

**Cities are responding to cost pressures by making service cuts and to a lesser extent revenue increases**

**How cities are choosing to respond**

Percentage of cities taking action



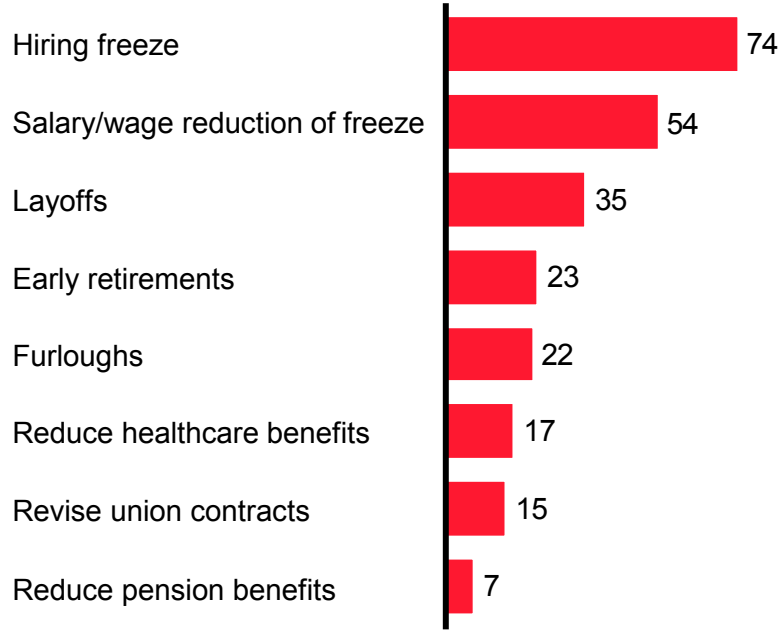

**Low income residents are disproportionately affected, as they**

- **Depend on government services prioritized for cuts (e.g., pre-K, public transport)**
- **Constitute a majority of government payroll**

**Cities are turning to hiring and salary freezes before layo**

**Cities' personnel-related cuts, 2010-11**

Percentage of cities taking action




Source: National League of Cities, "City Fiscal Conditions 2011"; team analysis

# E1 Overview of select cities'[1] deficit-reduction plans

✓✓ Announced measures – high impact
✓ Announced measures – moderate impact
✗ No measures announced

| | | | El Paso | Tampa | Detroit | Phoenix | Memphis | Cleveland | Portland | Philadelphia | Chicago |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Increase revenue | Increase tax rates | Income tax | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| | | Corporate tax | ✗ | ✗ | ✓ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| | | Property tax | ✗ | ✗ | ✗ | ✓ | ✓✓ | ✗ | ✓ | ✓✓ | ✗ |
| | | Sales tax | ✗ | ✗ | ✗ | ✓ | ✗ | ✓ | ✓ | ✓ | ✗ |
| | Fees | Rate increase | ✓✓ | ✓✓ | ✗ | ✓ | ✓ | ✗ | ✓ | ✓✓ | ✓✓ |
| | | New fees | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ | ✗ | ✓ | ✓ |
| | Differential pricing | | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| | Sell or lease assets | | ✗ | ✗ | ✓ | ✓ | ✗ | ✓✓ | ✗ | ✗ | ✓ |
| Cost and service reductions | Personnel | Wages | ✗ | ✓ | ✓ | ✓✓ | ✓ | ✓ | ✓✓ | ✓ | ✓ |
| | | FTEs[2] | ✓ | ✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ |
| | Pensions/retirement benefits | | ✓ | ✗ | ✓✓ | ✗ | ✓ | ✗ | ✗ | ✗ | ✗ |
| | Operating costs (non-FTEs) | | ✓ | ✓ | ✓ | ✓✓ | ✓ | ✗ | ✓✓ | ✓ | ✓ |
| | Service cuts[3] | | ✓✓ | ✓ | ✓✓ | ✓✓ | ✓ | ✓✓ | ✓ | ✓✓ | ✓ |
| | Unemployment benefits | | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| | Family and other benefits[4] | | ✓ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✓ | ✓ |
| | Healthcare | | ✓✓ | ✗ | ✓ | ✗ | ✗ | ✗ | ✗ | ✗ | ✓ |
| | Capital projects/maintenance | | ✗ | ✗ | ✓ | ✗ | ✗ | ✗ | ✓✓ | ✓ | ✓ |
| Innovation and efficiency | Procurement/capital projects | | ✗ | ✗ | ✓ | ✗ | ✗ | ✗ | ✓ | ✗ | ✗ |
| | Incentivize productivity | | ✗ | ✗ | ✗ | ✓ | ✗ | ✗ | ✗ | ✗ | ✓ |
| | Data/technology to lower costs | | ✗ | ✓ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✓ |
| | Tax collection | | ✗ | ✓ | ✓ | ✗ | ✗ | ✓ | ✗ | ✓ | ✗ |
| Financing/ partner-ships | Raise debt/innovative financing | | ✗ | ✗ | ✓ | ✓ | ✓ | ✗ | ✓ | ✓ | ✗ |
| | Pension plan investments | | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| | Private sector | Outsource | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✓ |
| | | PPP | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✓ | ✗ | ✓ |
| | | Privatize | ✓ | ✗ | ✓ | ✗ | ✓ | ✗ | ✗ | ✗ | ✓ |

1 Selected as representative of each archetype
2 Includes hiring freezes
3 Includes elimination or reduction in direct services (e.g., reduced DMV hours, cuts in public transport) and program reductions (e.g., job training programs)
4 E.g., food stamps and child care
SOURCE: Public announcements; expert interviews; team analysis

# E1 Municipalities are identifying innovative strategies to raise revenues

## Cities are identifying new revenue streams

### Differential service-level pricing

- Trash collection fees based on volume or frequency (e.g., Seattle's Solid Waste Management Plan)
- Differential pricing to expedite city services (e.g., DMV processes)

### Demand management pricing

- Variable congestion pricing (e.g., London)
- Variable parking meter rates based on current occupancy (e.g., San Francisco)

### Cost base pricing

- Pricing public transit based on actual costs (e.g., Japan's railway systems are profitable)

### Selling and leasing assets

- Advertising on public space, e.g., bus stops
- Branding or name rights e.g., Emirates Sky Rail in London
- Sale or leasing of property or infrastructure (e.g., Akrin, Ohio leased the sewage system to pay for local college scholarship program)

## Case example – Seattle introduced a differential pricing model aimed at encouraging residents to recycle and reduce waste

### Background

Seattle adopted long-term Integrated Solid Waste Management Plan

Aspired to realize a 60% waste reduction/recycling through changes implemented in rate structure

To adopt the best rate structure in garbage disposal, City gathered historical information to 'test market' various rate models

### Pricing model

Base - cost-based rates for 1 garbage can and higher prices for additional cans

Additional services:

- *Can service* – allows residents to choose can sizes of different prices (mini-can, half-can)
- *Occasional extra waste disposal* – allows residents to dispose of extra trash marked with a fixed price sticker, while keeping the lower monthly trash subscription rate

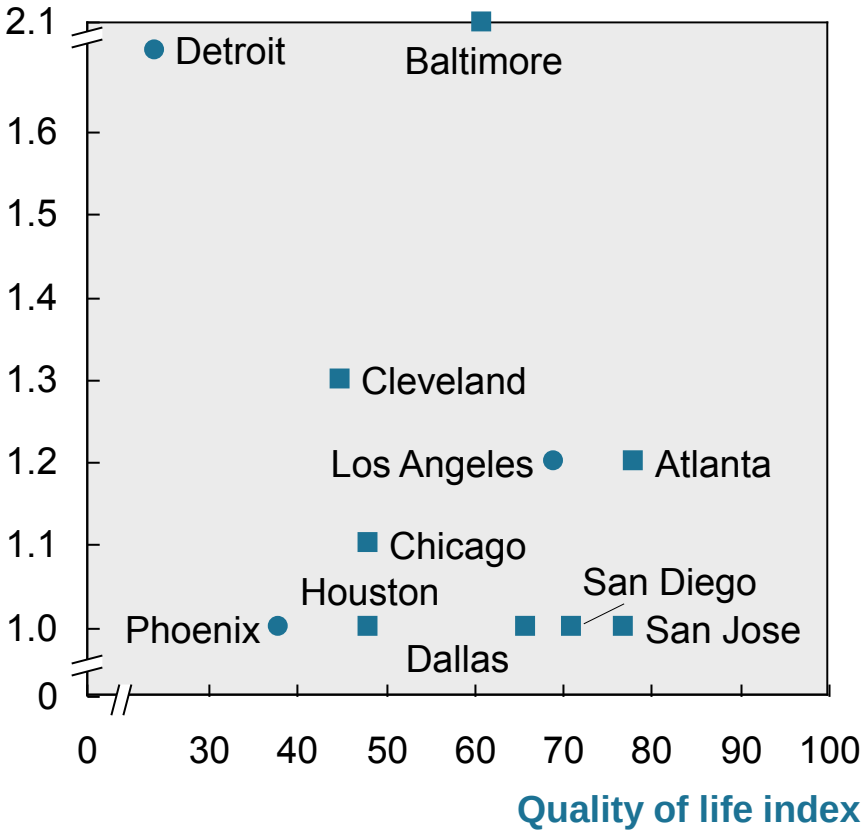
### Impact

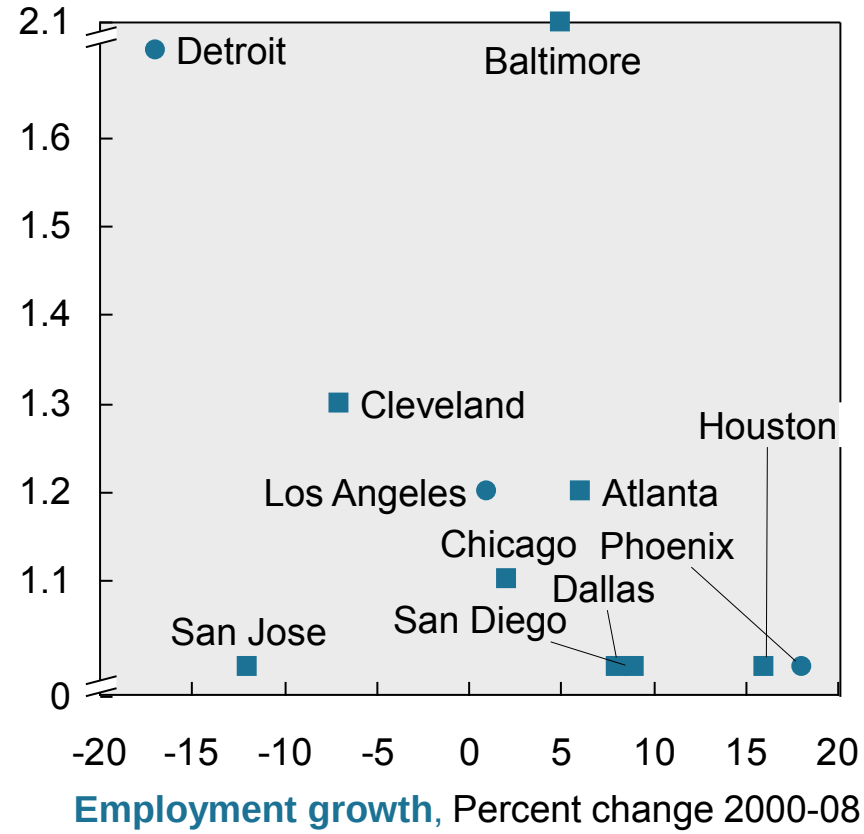
Estimated revenue increases were USD 1.2 million (2010 dollars)

Additional savings achieved by minimizing landfill disposal costs

Source: Expert interviews; press search; team analysis

# E3 Raising revenues is not the only answer to success – it is possible to do better with less through good municipal management




- There is no correlation between city expenditures and citizen well-being or job creation
- **With clear priorities and strong management, it is possible to deliver a higher volume of superior services using less resources**

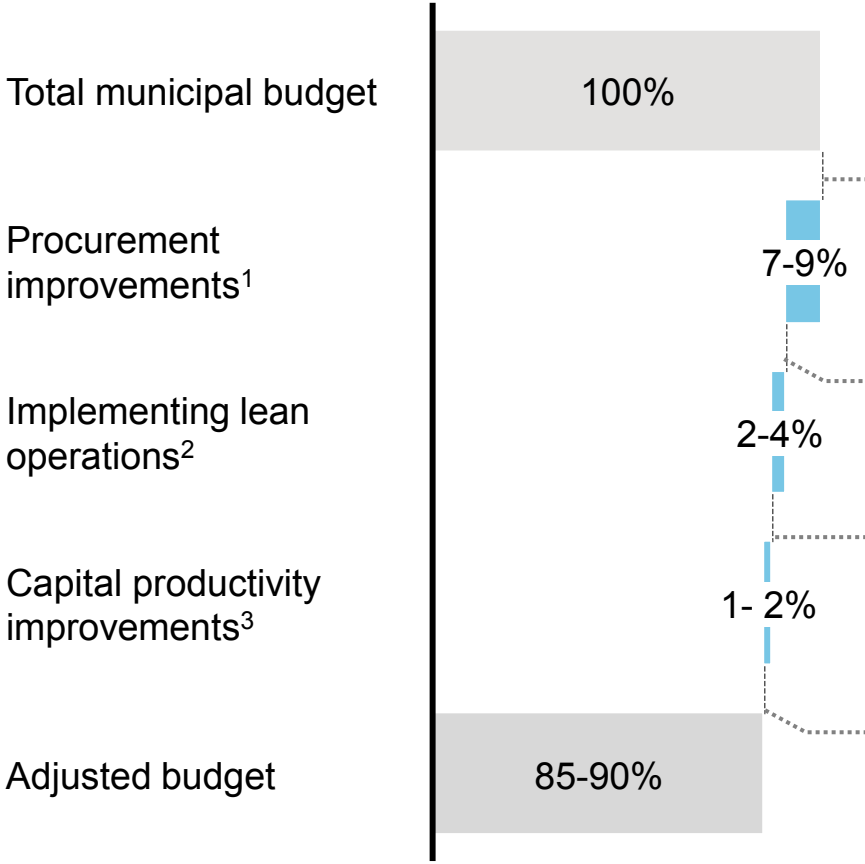
Source: Moody's; team analysis

# E3 Municipalities could save 10-15% by adopting lean operating principles, better procurement practices, and better capital productivity

TOP-DOWN ESTIMATES

## Potential municipal savings

Percentage of total municipal General Fund budget




## Description

- Top down savings estimates (based on historical savings' percentages achieved in the public sector) were applied to a sample 2010 municipal budget
- A savings database of over 1200 procurement engagements reveals a 15-25% savings is achievable in the public sector, through demand reduction, process improvement, and negotiations
- Implementing lean operational process improvements are conservatively assumed to save 5–10% of personnel services costs
- Capital productivity reductions could range between 10-20% from capital portfolio optimization, design optimization, contracting improvements, lean construction, and process improvements

1 Third party procurement spend on goods and services is ~45% of the total budget
2 Spend on fully loaded personnel service costs is ~40% of the total budget
3 Spend on capital improvements is ~10% of the total budget

Source: Database of 1200 procurement engagements since 2002; operations practice; expert interviews; municipal budgets and team analysis

# E3 Cities can leverage technology and big data to improve operations while reducing costs

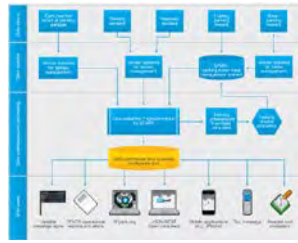
## Cities are leveraging technology to provide better services and reduce costs …

- Technology such as inexpensive remote sensors and mobile connectivity, coupled with big data can be leveraged to **generate transparency and integrated responses, enabling cities to optimize operations, improve service, and cut costs –** e.g.
  - Rio de Janeiro's Operations Center improves efficiency across the government by connecting all agencies to handle risk management
- Cities can **incentivize innovation** and efficiency
  - Mayor Emanuel launched a competitive USD 20 million revolving Innovation Loan Fund[1]
    - Loans will be competitively awarded to city departments for projects that produce revenue gains or reduced costs and service improvements
    - Savings and revenues generated will be used to repay the loans, and savings above the loan will be captured by the department for investment

## … and optimize services to increase revenues

- San Francisco's parking was inefficient
  - Meters could not adjust rates during peak times
  - Parking attendants caught a small percentage of violators
  - Residents found it inefficient and annoying
- The city installed sensors in each parking place to identify which meters were in use – sensors detect vehicles and send data through a network of communications equipment
- San Francisco is also experimenting with variable pricing to price parking spaces to manage demand

**Data is collected centrally and permits improved reporting …**



**… while SF park improved the resident experience**

**SF park is still a pilot, but has driven an 11% increase in parking revenues to date**

1 Established through the securitization of city bus shelter advertising revenues

Source: Public announcements; New York Times; expert interviews; team analysis

# E3 Technology and big data can help cities meet potential service gaps created by budget cuts…

## Case study – Santa Cruz Police Department

- Police struggle to effectively prevent crime as budgets are being dramatically slashed; the Santa Cruz Police Department now responds to 30% more calls with 20% less staff than in 2000
- A team in Santa Cruz, comprised of 2 mathematicians, an anthropologist, and a criminologist, **developed a model that predicts areas and windows of time when crimes are more likely to occur, based on past crime data**
  - The model recalibrates daily as new crimes are logged in the system
- The system has prevented several crimes and led to arrests; burglaries in July 2011 were down 27% from July 2010

### Players and their roles

**Academic Team**
- Team comprised of 2 mathematicians, an anthropologist, and a criminologist used past crime data to develop a model that predicts the occurrence of crimes

**Santa Cruz Police Department**
- Provides crime data
- Inputs data (crime reports) that continuously updates the model
- Deploys police resource to prioritized areas

**Los Angeles Police Department**
- Provided additional crime data

### Data pools used

- 8 years of historical crime data (locations, types, times)
- Real-time crime reports

### Analysis performed

- Analysis of patterns in past crimes by location, time, and type
  - The model breaks the city down into squares of ~500 by 500 feet
- The model generates a list of 10 highest probability "hot spots" every day

### Impact

- 27% reduction in burglaries between July 2010 and July 2011

### Key success factors

- Existence of past data in electronic form
- Ability to update model on a regular basis as new crime reports are entered into the system
- Diverse team with members from different fields collaborating on creation of the model

Source: "Sending the Police Before There's a Crime," New York Times, August 15 2011; team analysis

# E3 …While also informing spending and the prioritization of limited resources

## Case study – Illinois uses data mining to prioritize road improvement initiatives

- The Illinois Department of Transportation (IDOT) and the University of Illinois developed a **model to help prioritize roads for safety improvement projects**
- The team used accident and traffic data to develop safety performance functions (SPF) for 12 categories of state routes and 8 categories of intersections using the Empirical Bayes (EB) method
- The SPFs calculate an expected crash frequency for roads or intersections with specific features; roads that have higher than expected accident rates and high accident severity are prioritized for improvements
- The project began in 2008; traffic fatalities fell by 26% between 2007 and 2010

### Players and their roles

**Illinois Department of Transportation**
- Provided project funding
- Supplied accident, traffic and road data
- Participated in development of model

**University of Illinois at Urbana-Champaign**
- Led development and application of model

**US Department of Transportation**
- Provided funding for road improvements through the Highway Safety Improvement Program

### Data pools used

- Roadway data (including traffic and road characteristics)
- Crash data
- Intersection data
- Translation data (used for merging of data sets, which used different identifiers)

### Analysis performed

- Development of SPFs using all provided data to estimate expected crash frequency for roads with a given set of characteristics
- Calculation of a Potential for Safety Improvement (PSI) score for all locations; locations with higher than expected crash rates and high accident severity have higher PSIs
- PSIs used to prioritize road and safety improvements

### Impact

- 26% reduction in traffic fatalities between 2007 and 2010

### Key success factors

- Data availability; academics were able to merge multiple data sets to create the model
- Use of a data-driven approach and identified projects that had previously been overlooked. For example, earlier prioritization efforts tended to over emphasize projects in urban areas
- State transportation professionals have become more comfortable with relying on data-driven approaches

Source: "Development of SPFs for All State Routes and Intersections," Development and application of safety performance functions for Illinois," Tegge et al (2010); team analysis

# E3 Cities can explore innovative financing mechanisms to fund services with high impact, including social impact bonds (SIBs)

### SIBs have the potential to scale proven prevention programs …

- Low-risk way for governments to fund and scale **high-impact, proven prevention programs**
- SIBs offer the potential to **reduce government operating costs** through more effective, less expensive programs
  - In the UK, Social Finance forecasts that a GBP 50 million bond could lead to closing of 4 prisons in 5 years with savings of GBP 50 million
- Potential to complement a meaningful portion of required state and local services
  - Clear opportunities in **criminal justice and homelessness**, with potential in **health and early education**

### … offering many benefits to states and cities

- As governments face pressure to reduce funding for social service programs, SIBs can serve as a **catalyst for government** to
  - Generate long-term positive social benefits
  - Generate **more effective results for the same cost**
  - Shift budgets **from remediation to a focus on prevention**
  - Realign government operations to promote **cooperation across departments and agencies**

### However, direct budget impact is limited as not all savings can be monetized

- While SIBs should generate savings to cities, monetizing and capturing these savings pose challenges
  - Government savings will largely be **"marginal costs avoided"**, vs. big savings for taxpayers
  - At the size currently envisioned, **savings generated from an SIB will be too limited to lead to massive cost savings**
  - The timing and magnitude of taxpayer benefits will vary meaningfully by jurisdiction and intervention/program

**While SIBs are promising, direct implications are limited in the near-medium term for municipal budgets and service delivery gaps**

Source: McKinsey Report: "From Potential to Action: Bringing Social Impact Bonds to the US", May 2012

# E4 As cities scale back or cut services, the private sector and philanthropy can play a critical role in minimizing the impact on low income residents

| | Description of common service reductions | Examples |
|---|---|---|
| **Employment-related services** | ▪ States and cities are trimming employment assistance programs, especially subsidized child care, job training, and vocational training programs for high school students | ▪ New Jersey is exploring privatizing its 18 One-Stop Career Centers to save money in light of federal funding cuts to workforce development programs |
| **Youth and education services** | ▪ Cities are limiting provision of nonessential youth services such as early education<br>– In 2011, 20% of schools were pursuing cuts to after-school and summer programs<br>– Many cities have closed recreation centers, limited library hours, and eliminated youth programs (e.g., youth violence prevention) | ▪ St. Paul partnered with local non profits to prevent closure of 10 of its 33 recreation centers in response to a citywide budget shortfall of USD 16.5 million<br>▪ St. Clarita, California hired a private company to run all operations of 3 public libraries, estimated to save USD 1 million a year by cutting overhead and replacing unionized employees |
| **Transportation and infra-structure** | ▪ Since 2010, 71% of the nation's large systems have cut public transportation service, and 50% have raised fares | ▪ The Detroit Bus Company – a new private sector venture, just launched to supplement Detroit DOT route cuts and its elimination of nighttime service<br>▪ Chicago and Atlanta outsourced parking meter enforcement to the private sector |
| **Other services** | ▪ Many cities have responded by closing of firehouses and laying off police officers<br>▪ States and cities across the country have dramatically cut resources for programs supporting the homeless | ▪ Costa Mesa is pursuing privatizing a range of services including running the jail, 911 dispatch calls, and park and street maintenance<br>▪ In Fort Worth, after homeless funding fell 50% Catholic Charities stepped in to finance the outreach team, though it still resulted in 'an overall service reduction' |

Source: American Association of School Administrators; expert interviews; team analysis

# Contents

# We determined our city archetypes by selecting economic, demographic, and social metrics, collecting data and running K-means archetypeing analysis

## Process followed to determine city archetypes

- The largest 264 cities in the US were selected for analysis to determine "city archetypes" to identify cities that shared common characteristics
- More than 20 economic, demographic, and social metrics were selected for analysis
- Data was collected from 2001–2010 for all 264 MSAs
- A series of K-means archetypeing analyses were run on different metrics over different time periods until the most meaningful city archetypes emerged

## Results

- 7 different city archetypes were formed where each has different economic, demographic, and social characteristics
- Approximately 10 scenarios were run and assessed – the scenario which showed the largest variation and tightest archetype of cities was chosen as the final result



Source: team analysis

# archetypes were determined by economic and demographic variables

✓ Used for archetypeing ✓ Measured but not used to form archetypes

| Variables | Metric measures | Latest year | 2007-10 | 2001-07 | 2001 - 10 |
|---|---|---|---|---|---|
| **1 Economic prosperity** | | | | | |
| ▪ GDP per capita | ▪ Economic health | ✓ | ✓ | ✓ | ✓ |
| ▪ Unemployment rate | ▪ Economic health | ✓ | ✓ | ✓ | ✓ |
| ▪ Industry share | ▪ Economic share | ✓ | ✓ | ✓ | ✓ |
| ▪ Housing prices | ▪ Wealth | ✓ | ✓ | ✓ | ✓ |
| ▪ Income distribution | ▪ Wealth and inequality | ✓ | | | ✓[1] |
| ▪ Gini coefficient in 2010 | ▪ Inequality | ✓ | | | |
| **2 Population** | | | | | |
| ▪ Population | ▪ Size | ✓ | ✓ | | ✓ |
| ▪ Population density | ▪ Urbanization | ✓ | | | |
| **3 Educational attainment** | | | | | |
| ▪ Percentage over 25 with a bachelor's degree | ▪ Education | ✓ | | | ✓[1] |
| ▪ Percentage over 25 graduated high school | ▪ Education | ✓ | | | ✓[1] |
| **4 Diversity** | | | | | |
| ▪ Age distribution as percent of total | ▪ Age distribution | ✓ | | | ✓ |
| ▪ Percentage non-Caucasian (including Hispanic) | ▪ Race | ✓ | | | ✓ |
| ▪ English speaking | ▪ Access | ✓ | | | ✓[1] |
| ▪ Percentage of immigrant population | ▪ Migration | ✓ | | | |
| **5 Health** | | | | | |
| ▪ Percentage of population uninsured | ▪ Access | ✓ | | | |
| **6 Municipal fiscal strain** | | | | | |
| ▪ City bond rating | ▪ Municipal health | ✓ | | | |

1 Metrics only available for 2005 and 2010

Source: team analysis

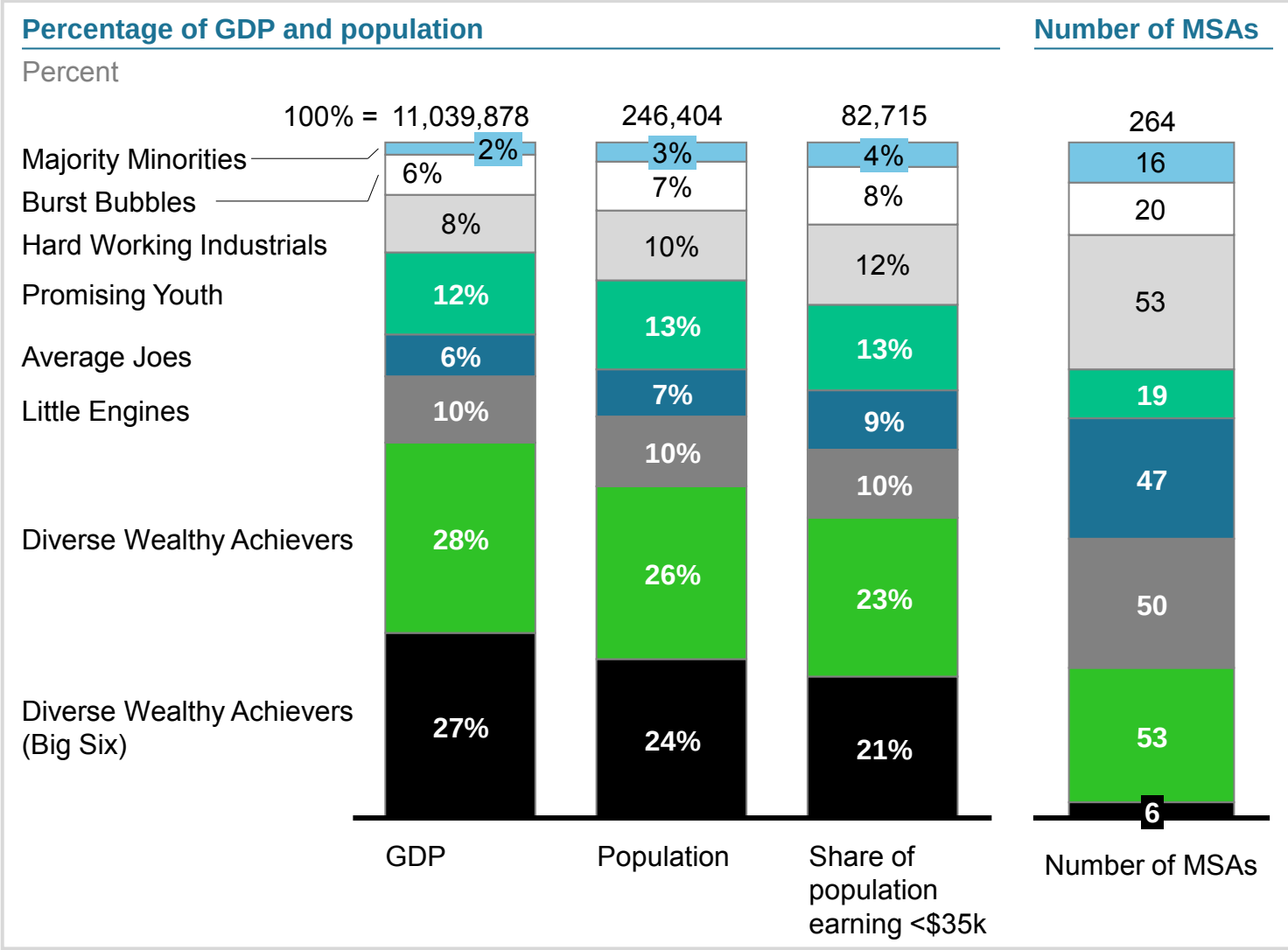
# We have determined that cities fall into 7 archetypes

| | Description | Example cities | |
|---|---|---|---|
| **Majority Minorities** | ▪ Poor economic performers with a few opportunities for a diverse, younger population – the lowest GDP per capita, chronically high unemployment (16%), and very depressed house prices | 16 cities, including<br>▪ Bakersfield, CA<br>▪ Brownsville, TX | ▪ Salinas, CA<br>▪ Yakima, WA<br>▪ Yuma, AZ |
| **Burst Bubbles** | ▪ Boom and burst cities that are not bouncing back, leaving aging residents with negative home equity – From 2007 to 2010 house prices decreased 17% annually and unemployment rose from 5% to 13%<br>▪ Cities have the largest share of retirees (44% > 50 years) | 20 cities, including<br>▪ Bend, OR<br>▪ Las Vegas, NV<br>▪ Miami, FL | ▪ Myrtle-beach, SC<br>▪ Orlando, FL<br>▪ Prescott, AZ<br>▪ Tampa, FL |
| **Hard Working Industrials** | ▪ Aging cities that grew slowly pre-recession, but are bouncing back better than Burst Bubbles – these are smaller economies who derive a large share of GDP from manufacturing and construction | 53 cities, including<br>▪ Albany, GA<br>▪ Atlantic City, NJ | ▪ Detroit, MI<br>▪ Flint, MI<br>▪ Jackson, MI |
| **Promising Youth** | ▪ Growing, diverse cities with stable economies that provide opportunities for younger city residents – there is a more equal income distribution and cities are relatively less dense | 19 cities including<br>▪ Austin, TX<br>▪ Dallas, TX | ▪ Greeley, CO<br>▪ Houston, TX<br>▪ Phoenix, AZ |
| **Average Joes** | ▪ Economically stable cities, with very resilient house prices<br>▪ Cities contain larger shares of low-income residents with average diversity, average age distribution, and average education levels | 47 Cities including<br>▪ Charleston, WV<br>▪ Chattanooga, TN | ▪ Memphis, TN<br>▪ New Orleans, LA<br>▪ Oklahoma City, OK |
| **Little Engines** | ▪ Educated, economically high performing cities with the lowest unemployment rates and relatively equal income distribution<br>▪ Cities have an average age distribution, with less racial diversity | 50 cities, including<br>▪ Albany, NY<br>▪ Manchester, NT | ▪ Peoria, IL<br>▪ Pittsburgh, PA<br>▪ Springfield, MA |
| **Diverse Wealthy Achievers (and Big 6)[1]** | ▪ Large, diverse, and dense economic centers with the highest GDP per capita and well-educated and wealthy residents<br>▪ Big 6 cities who account for 27% of total city GDP and 28% of total city population and are ~33% non-Caucasian | 59 cities, including<br>▪ Ann Arbor, MI<br>▪ Atlanta, GA<br>▪ Chicago, IL | ▪ Los Angeles, CA<br>▪ Minneapolis, MN<br>▪ New York, NY<br>▪ Portland, OR |

1 Big 6 cities include Atlanta, GA; Chicago, IL; Los Angeles, CA; San Francisco, CA; Washington, DC; New York, NY

Source: U.S. Bureau of Labor Statistics (BLS): Current Employment Statistics (CES), Quarterly Census of Employment and Wages (QCEW); Moody's Analytics Estimates; US Census data; City Scope data; team analysis

# The Diverse Wealthy Achievers archetype is the largest economic and most populous group of cities




Source: U.S. Census Bureau; team analysis

Above average: # > 110% of mean | Below average: # < 90% of mean | Average: 90% of mean ≤ # ≥ 110% of mean

# Sample metrics by archetype

Subset of metrics

| | archetype | Majority Minorities | Fading Stars | Working Class Industrials | Promising youth | Average Joes | Little Engines | Diverse Wealthy Achievers | Average |
|---|---|---|---|---|---|---|---|---|---|
| | Number of cities | 16 | 20 | 53 | 19 | 47 | 50 | 59 | |
| Economic health | GDP per capita 2010 (thousands) | 30.9 | 31.6 | 34.8 | 36.9 | 38.3 | 43.2 | 46.6 | 39.3 |
| | GDP per capita 2001-07 (CAGR[2]%) | 1.5 | 2.0 | 0.9 | 1.4 | 1.7 | 1.5 | 1.5 | 1.4 |
| | GDP per capita 2007-10 (CAGR[2]%) | -1.6 | -3.8 | -1.7 | -1.7 | -0.6 | -0.4 | -0.9 | -1.2 |
| | Unemployment 2010[1] (%) | 16.0 | 12.6 | 11.0 | 8.8 | 8.5 | 7.5 | 8.9 | 9.7 |
| | House price change 2007-10 (CAGR[2]%) | -13.9 | -17.2 | -5.3 | -5.3 | -1.5 | -2.6 | -5.7 | -6.0 |
| Income inequality | Income less than 35k[1] (%) | 42.0 | 40.6 | 40.0 | 32.9 | 42.7 | 33.7 | 32.6 | 37.3 |
| | Income greater than 100k (%) | 15.0 | 14.2 | 14.2 | 18.8 | 14.2 | 18.7 | 23.7 | 17.5 |
| Density | Population density 2009 (people per square mile) | 202.5 | 360.7 | 334.0 | 278.4 | 178.0 | 299.2 | 566.9 | 341.7 |
| Educational attainment | Proportion with bachelor degree (%) | 15.9 | 23.4 | 22.4 | 27.3 | 22.5 | 29.3 | 35.6 | 26.7 |
| Age diversity | Less than 19 years (%) | 33.7 | 23.4 | 27.0 | 31.0 | 27.3 | 25.7 | 26.5 | 27.1 |
| | Greater than 50 years old[1] (%) | 19.8 | 33.4 | 26.4 | 19.5 | 24.6 | 26.5 | 23.4 | 25.1 |
| Race Diversity | Non-Caucasian (%) | 71.0 | 28.5 | 26.7 | 37.2 | 33.1 | 17.4 | 33.3 | 31.1 |

1 Red cells reflect cities with higher values (i.e.,>110% of the mean) and green cells reflect lower values to reflect better and worse scenarios
2 Compound Annual Growth Rate

Source: U.S. Bureau of Labor Statistics (BLS): Current Employment Statistics (CES), Quarterly Census of Employment and Wages (QCEW); Moody's Analytics Estimates; US Census data; City Scope data; team analysis

# City archetypes

## City archetypes

- **A** **archetype profiles**
- **B** Comparative analysis
- **C** City lists

Above average: # > 110% of mean | Below average: # < 90% of mean | Average: 90% of mean ≤ # ≥ 110% of mean

# Majority Minorities

## Overview of city characteristics

### Poor economic performers with a few opportunities for a diverse, younger population

- Very poor performing economies, exhibiting the lowest GDP per capita, chronically high unemployment and a steep decline in house prices
- Youngest, most diverse population with extremely low levels of education and few economic opportunities
- High share of low-income earners who are residing in less dense cities
- 16 cities with a large share of southern border cities (e.g., El Centro, CA, El Paso, TX, Stockton, CA)

## Economic prosperity

### Economies are performing very poorly

**GDP per capita:** Minimal wealth, with the lowest GDP per capita at $31,000 and average growth

**Unemployment[1]:** Highest of all archetypes at 16%

**Housing:** Crashed hard – 14% average annual price decrease from 2007 to 2010

## Demographics

### Extremely diverse, young and low-income population

**Diversity:** Most diverse archetype with 70% non-Caucasian and 25% who are non-English speaking

**Aging:** Youngest archetype
- 34% of the population is less than 19 years
- 20% of the population is greater than 50 years

**Population growth:** Second fastest from 2001 to 2010 (~2%)

## Access and equity

### Least educated, less dense and lower income levels

**Education:** Least educated
- *High school:* Lowest attainment levels (70%)
- *College:* Lowest attainment levels (16%)

**Density:** Less dense (203 people per square mile)

**Income distribution:** Large share of low-income earners (42% < $35k)

1 Red cells reflect cities with higher values (>110% of the mean) and green cells reflect lower values (<90% of mean) to indicate better and worse scenarios of unemployment

Source: U.S. Bureau of Labor Statistics (BLS): Current Employment Statistics (CES), Quarterly Census of Employment and Wages (QCEW); Moody's Analytics Estimates; US Census data; City Scope data; team analysis

Above average: # > 110% of mean | Below average: # < 90% of mean | Average: 90% of mean ≤ # ≥ 110% of mean

# Burst Bubbles

## Overview of city characteristics

### Boom and bust cities that are not bouncing back, leaving aging residents with negative home equity

- Economic stars prior to the recession, experienced the strongest growth from 2001-2007 but have crashed hard from 2007 to 2010 – housing prices have fallen 17% annually in this period and unemployment grew from 5 to 13%
- Cities are aging with the largest share of retirees (older than 65), the largest share of people older than 50 years and the lowest share of people younger than 19 years
- 20 cities with a large share from the Florida region (e.g. Miami, FL, Naples, FL, Tampa FL)

## Economic prosperity

### Economies and property values boomed and busted

**GDP per capita:** Lower wealth
- Second lowest GDP per capita at $32,000
- Boomed and busted, highest growth from 2001 to 2007 and lowest from 2007 to 2010

**Unemployment[1]:** Second highest at 13%

**Housing:** Crashed hard – 17% annual price decrease from 2007 to 2010

## Demographics

### Aging population with average diversity

**Diversity:** Average diversity with ~29% of residents non-Caucasian

**Aging:** Oldest archetype
- 23% of the population is less than 19 years
- 44% of the population is greater than 50 years

## Access and equity

### Low to average education levels, and lower income levels

**Education:** Lower education levels
- *High school:* Average attainment levels (87%)
- *College:* Lower college attainment levels (23%)

**Density:** Average density (361 people per square mile)

**Income distribution:** Larger share of low-income earners (41% < $35k)

1 Red cells reflect cities with higher values (>110% of the mean) and green cells reflect lower values (<90% of mean) to indicate better and worse scenarios of unemployment

Source: U.S. Bureau of Labor Statistics (BLS): Current Employment Statistics (CES), Quarterly Census of Employment and Wages (QCEW); Moody's Analytics Estimates; US Census data; City Scope data; team analysis

Above average: # > 110% of mean | Below average: # < 90% of mean | Average: 90% of mean ≤ # ≥ 110% of mean

# Hard Working Industrials

## Overview of city characteristics

### Aging cities that grew slowly pre-recession, but are bouncing back better than Burst Bubbles

- Relatively smaller economies, with lower GDP per capita, higher unemployment levels and who derive a larger share of GDP from manufacturing and construction industries
- Aging, slow-growing population, who are slightly less diverse and less educated than average
- Large share of low-income residents who are living in cities of average density
- 53 working class cities including Detroit, MI; Grand Rapids, MI; Toledo, OH; Youngstown, OH

## Economic prosperity

### Slower growing with slightly above average unemployment

**GDP per capita:** Lower wealth with GDP per capita at $35k
- More slow growth prior to recession – less dramatic bust

**Unemployment[1]:** Third highest at 11%

**Industry share:** Relatively larger share of GDP from manufacturing and construction (18%)

## Demographics

### Less diverse population with average age distribution

**Diversity:** Less diverse with ~27% of residents non-Caucasian

**Aging:** Average population distribution
- 27% of the population is less than 19 years
- 26% of the population is greater than 50 years

**Population growth:** Slowest from 2001 to 2010 (<1 %)

## Access and equity

### Low to average education levels and lower income levels

**Education:** Average education levels
- *High school:* Average attainment levels (84%)
- *College:* Lower college attainment levels (22%)

**Density:** Average density (334 people per square mile)

**Income distribution:** Large share of low-income earners (40% < $35k)

1 Red cells reflect cities with higher values (>110% of the mean) and green cells reflect lower values (<90% of mean) to indicate better and worse scenarios of unemployment

Source: U.S. Bureau of Labor Statistics (BLS): Current Employment Statistics (CES), Quarterly Census of Employment and Wages (QCEW); Moody's Analytics Estimates; US Census data; City Scope data; team analysis

Above average: # > 110% of mean | Below average: # < 90% of mean | Average: 90% of mean ≤ # ≥ 110% of mean

# Promising Youth

## Overview of city characteristics

### Growing, diverse cities with stable economies that provide opportunities for younger city residents

- Economies have experienced average growth, unemployment, and near average house price declines
- Faster growing, better educated and younger populations with higher levels of diversity
- Residents have a more equal income distribution, and cities are relatively less dense
- Includes younger more educated cities including Austin, TX; Dallas, TX; Houston, TX; Phoenix, AZ

## Economic prosperity

### Average economic performers

**GDP per capita:** Average GDP per capita at $37,000, with average growth from 2001 to 2010

**Unemployment[1]:** Slightly below average unemployment at 9%

**Housing:** slightly better than average decline in prices from 2007 to 2010 (5.25%)

## Demographics

### Higher diversity, fast growing younger population

**Diversity:** Higher diversity with ~37% of the residents non-Caucasian

**Aging:** Second youngest population
- 31% of the population is less than 19 years
- 19% of the population is greater than 50 years

**Population growth:** Fastest growth from 2001 to 2010 (~3%)

## Access and equity

### Better education levels and very equal income distribution

**Education:** Average to high education levels
- *High school:* Average attainment levels (87%)
- *College:* Higher college attainment levels (27%)

**Density:** Less dense (278 people per square mile)

**Income distribution:** Equal distribution – a lower share of both high and low income earners

1 Red cells reflect cities with higher values (>110% of the mean) and green cells reflect lower values (<90% of mean) to indicate better and worse scenarios of unemployment

Source: U.S. Bureau of Labor Statistics (BLS): Current Employment Statistics (CES), Quarterly Census of Employment and Wages (QCEW); Moody's Analytics Estimates; US Census data; City Scope data; team analysis

Above average: # > 110% of mean | Below average: # < 90% of mean | Average: 90% of mean ≤ # ≥ 110% of mean

# Average Joes

## Overview of city characteristics

### Economically stable cities, with larger shares of low-income residents with average demographics

- Average GDP per capita, with stable growth, lower levels of unemployment and very resilient house prices
- Average age distribution, average diversity, and slightly lower than average education levels
- Contains the largest share of low-income residents and smallest share of high-income residents
- Residents live in less dense cities
- Includes cities across the US (e.g., Chattanooga, TN; Memphis, TN; New Orleans, LA; Oklahoma City, OK)

## Economic prosperity

### Stable economic performers with lower unemployment

**GDP per capita:** Average GDP per capita at $38,000, with above average growth both pre- and post-recession

**Unemployment[1]:** Lower than average at 8.5%

**Housing:** Smallest decline in average price from 2007 to 2010 (only 1.5%)

## Demographics

### Average diversity populations with average age distribution

**Diversity:** Average diversity with ~33% of the residents non-Caucasian

**Aging:** Average population distribution
- 27% of the population is less than 19 years
- 25% of the population is greater than 50 years

## Access and equity

### Low to average education levels and lower income levels

**Education:**
- *High school:* Average attainment levels (84%)
- *College:* Lower college attainment levels (23%)

**Density:** Less dense (178 people per square mile)

**Income distribution:** Large share of low- income earners (43% < $35k) and smallest share of high- income earners (14% > 100k)

1 Red cells reflect cities with higher values (>110% of the mean) and green cells reflect lower values (<90% of mean) to indicate better and worse scenarios of unemployment

Source: U.S. Bureau of Labor Statistics (BLS): Current Employment Statistics (CES), Quarterly Census of Employment and Wages (QCEW); Moody's Analytics Estimates; US Census data; City Scope data; team analysis

Above average: # > 110% of mean | Below average: # < 90% of mean | Average: 90% of mean ≤ # ≥ 110% of mean

# Little Engines

## Overview of city characteristics

### Educated, economically high performing cities with relatively equal income distribution

- Economically resilient cities who survived the recession with high GDP per capita, above average GDP growth, the lowest unemployment rates and modest housing declines
- Well-educated population, with the highest high-school attainment and more equal income distribution
- City residents are of average age distribution, with less racial diversity and live in lower density cities

## Economic prosperity

### Very strong economic performers

**GDP per capita:** Second highest GDP per capita at $43,000, with above average growth from 2007-2010

**Unemployment[1]:** Lowest unemployment levels at 7.5%

**Housing:** Second lowest price decline from 2007 to 2010 (3%)

## Demographics

### Low diversity population, with an average age distribution

**Diversity:** Lowest diversity with 17% of the residents non-Caucasian

**Aging:** Average age distribution
- 26% of the population is less than 19 years
- 26% of the population is greater than 50 years

## Access and equity

### High education levels and very equal income distribution

**Education:** Second highest education levels
- *High school:* Highest attainment levels (91%)
- *College:* High college attainment levels (29%)

**Density:** Less dense (299 people per square mile)

**Income distribution:** Equal distribution – a lower share of both high and low-income earners

1 Red cells reflect cities with higher values (>110% of the mean) and green cells reflect lower values (<90% of mean) to indicate better and worse scenarios of unemployment

Source: U.S. Bureau of Labor Statistics (BLS): Current Employment Statistics (CES), Quarterly Census of Employment and Wages (QCEW); Moody's Analytics Estimates; US Census data; City Scope data; team analysis

Above average: # > 110% of mean | Below average: # < 90% of mean | Average: 90% of mean ≤ # ≥ 110% of mean

# Diverse Wealthy Achievers

## Overview of city characteristics

### Large, diverse, and dense economic centres with very well-educated and wealthy residents

- Cities with extremely high GDP per capita, above average growth and better than average unemployment
- Residents are of average age distribution and diversity–although the Top 6 cities are ~50% non-Caucasian
- Extremely well educated population, with the highest share of high-income earners and the lowest share of low-income earners
- Top 6 cities account for 27% of total US city GDP and 24% of total US city population

## Economic prosperity

### Strong economic performers

**GDP per capita:** Highest GDP per capita at $46,000, with above average growth from 2007 to 2010

**Unemployment[1]:** Lower unemployment levels at 9%

**Housing:** Lower price decline from 2007 to 2010 (6%)

## Demographics

### Average diversity population, with an average age distribution

- **Diversity:** Average diversity with ~33% of the population non-Caucasian
  - Top 6 cities have almost 50% non-Caucasian

**Aging:** Average age distribution

- 27% of the population is less than 19 years
- 23% of the population is greater than 50 years

## Access and equity

### Most educated, with largest share of high-income earners

**Education:** Highest levels

- *High school:* High attainment levels (89%)
- *College:* Highest college attainment levels (35%)

**Density:** Most dense – Top 6 cities have 1,622 people per square mile (rest have 567)

**Income distribution:** Highest share of high-income earners and lowest share of low-income earners

1 Red cells reflect cities with higher values (>110% of the mean) and green cells reflect lower values (<90% of mean) to indicate better and worse scenarios of unemployment

Source: U.S. Bureau of Labor Statistics (BLS): Current Employment Statistics (CES), Quarterly Census of Employment and Wages (QCEW); Moody's Analytics Estimates; US Census data; City Scope data; team analysis

# City archetypes

## City archetypes

A archetype profiles

B **Comparative analysis**

C City lists

# Majority Minorities have the lowest GDP per capita and Diverse Wealthy Achievers have the highest

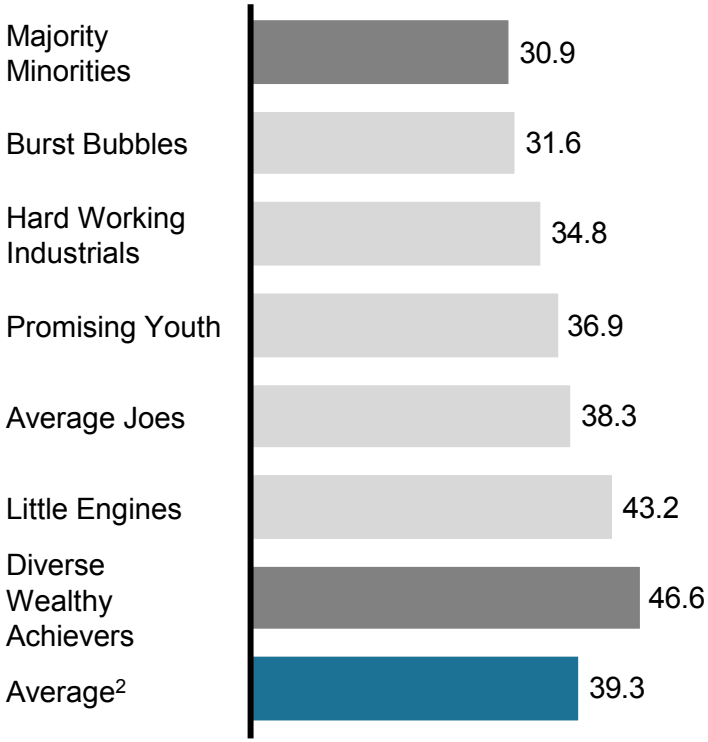
archetypes with the highest and lowest values

## Key takeaways

- Majority Minorities have the low levels of wealth with GDP per capita of ~$31k, while the Diverse Wealthy Achievers have the highest
- Burst Bubbles have experienced the sharpest decline in the GDP per capita over 2007-2010
- Average Joes and Little Engines have fared the best through the recession– with the lowest change in GDP per capita
- Promising Youth experienced a large increase in GDP, but not GDP per capita due to a 2.57% increase in population

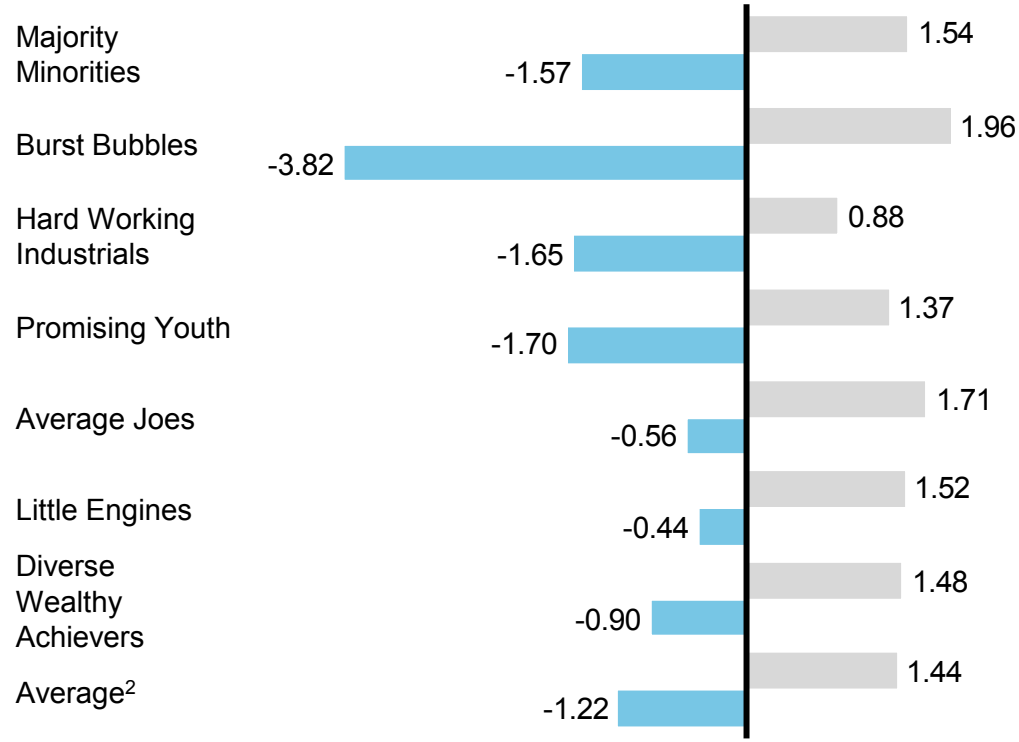
### GDP per capita

USD thousands, 2010




### GDP per capita growth

Percent[1]




1 Growth rate is the Compounded Annual Growth Rate which is the smoothed annualized growth rate over time
2 Straight average of the 264 MSAs

Source: U.S. Bureau of Economic Analysis; Moody's Analytics Estimates; team analysis

# Little Engines have maintained very low levels of unemployment through the recession

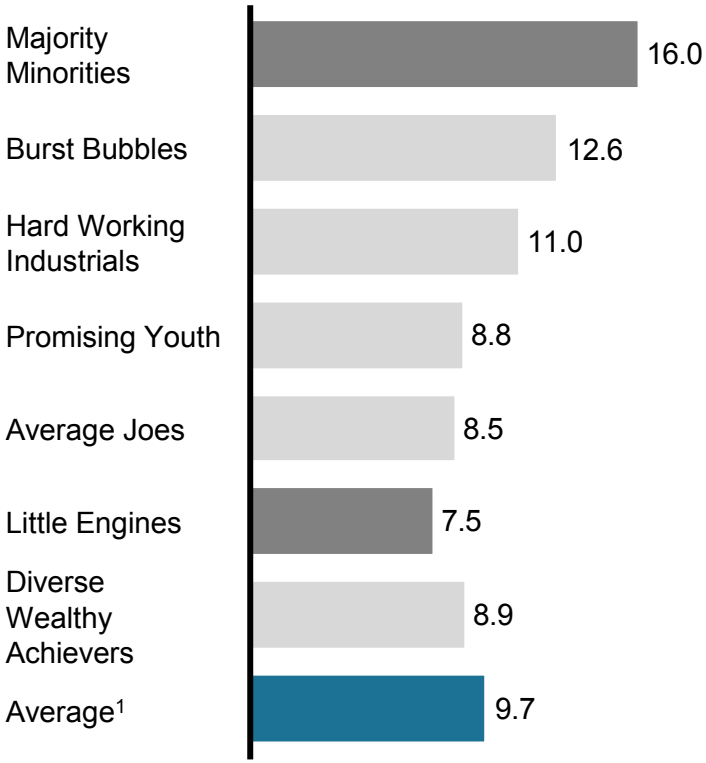
archetypes with the highest and lowest values

## Key takeaways

- Majority Minorities had the highest unemployment rate at 16%
- The Little Engines have the lowest unemployment rates at 7.5%
- Burst Bubbles and Majority Minorities have experienced the largest changes in unemployment during the recession

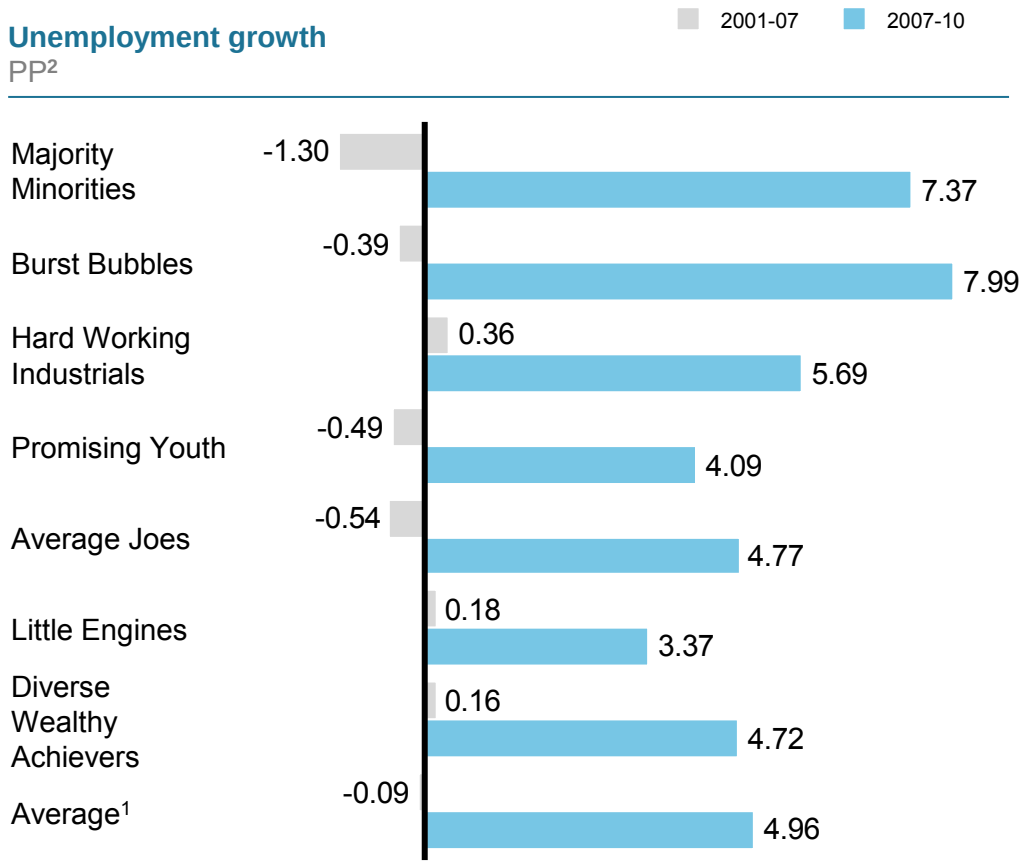
### Average unemployment rate

Percent, 2010




### Unemployment growth

PP[2]




1 Straight average of the 264 MSAs
2 Percentage points

Source: U.S. Bureau of Labor Statistics (BLS): Current Employment Statistics (CES), Quarterly Census of Employment and Wages (QCEW); Moody's Analytics Estimates; team analysis

# Government, Retail trade and Health care contribute the most to the GDP of most cities

Above average: # > 105% of mean | Below average: # < 95% of mean | Average: 95% of mean ≤ # ≥ 105% of mean

## Key takeaways

- Majority Minorities receive a relatively large share of their GDP from government
- Burst Bubbles receive a relatively large share of their GDP from retail trade and construction
- Hard Working Industrials receive a relatively large share of their GDP from manufacturing
- Little Engines have a high share of their GDP from health care and social assistance

## Proportion of GDP from sector

Percent, 2010

| archetype | Majority Minorities | Burst Bubbles | Hard Working Industrials | Promis-ing youth | Average Joes | Little Engines | Diverse Wealthy Achievers | Average[1] |
|---|---|---|---|---|---|---|---|---|
| Government | 28.47 | 16.15 | 16.08 | 19.78 | 20.43 | 19.38 | 19.95 | 19.37 |
| Retail trade | 12.89 | 14.64 | 12.01 | 11.85 | 11.59 | 11.64 | 10.81 | 11.84 |
| Healthcare and social assistance | 14.05 | 13.82 | 14.74 | 10.91 | 13.62 | 15.14 | 12.10 | 13.64 |
| Accommodation and food services | 8.52 | 12.30 | 9.17 | 8.76 | 9.04 | 8.17 | 8.61 | 9.00 |
| Manufacturing | 7.05 | 5.02 | 13.66 | 8.07 | 9.96 | 9.47 | 7.60 | 9.40 |
| Administrative and support | 4.61 | 6.14 | 5.58 | 6.56 | 5.17 | 4.53 | 5.59 | 5.36 |
| Professional and Scientific | 2.66 | 4.23 | 3.46 | 5.40 | 3.48 | 4.18 | 6.62 | 4.46 |
| Construction | 3.18 | 5.39 | 3.91 | 5.07 | 5.28 | 4.03 | 3.96 | 4.34 |
| Wholesale trade | 3.36 | 3.30 | 3.75 | 3.84 | 3.33 | 3.57 | 3.76 | 3.59 |
| Finance and insurance | 2.28 | 3.29 | 3.22 | 3.82 | 3.38 | 4.13 | 4.74 | 3.75 |
| Other social services | 4.80 | 8.18 | 7.28 | 6.97 | 5.84 | 7.79 | 7.75 | 7.12 |
| Other business services | 2.98 | 4.64 | 3.55 | 4.84 | 3.96 | 4.22 | 5.22 | 4.26 |
| Other primary industry | 5.16 | 2.90 | 3.60 | 4.12 | 4.92 | 3.73 | 3.28 | 3.87 |

1 Straight average of the 264 MSAs 2 Other social services include Arts and Recreation, Education and Other Services
3 Other business services include information, finance and insurance, real estate and rentals and management of companies
4 Primary industry include utilities, mining, quarrying and oil, transport, and warehousing

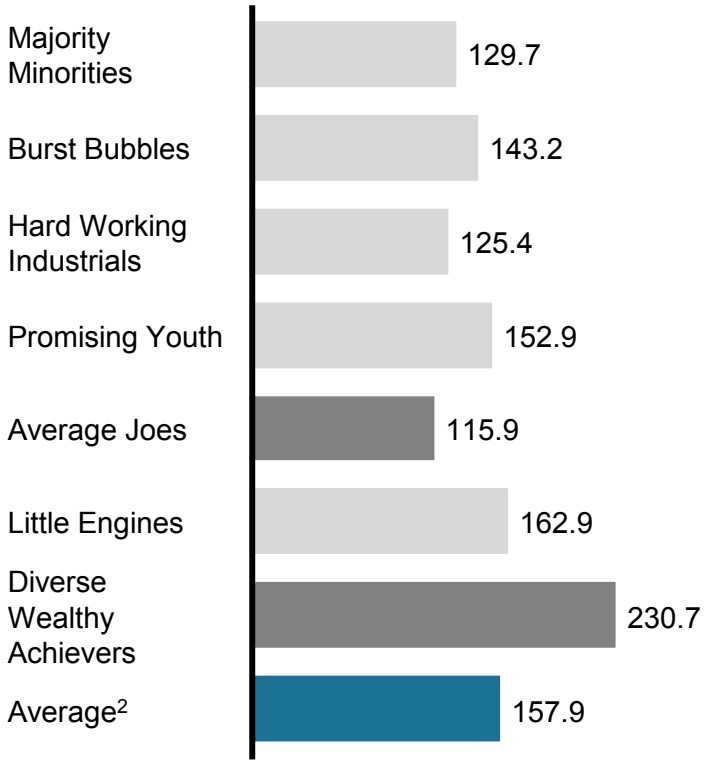
Source: Moody's Analytics; team analysis

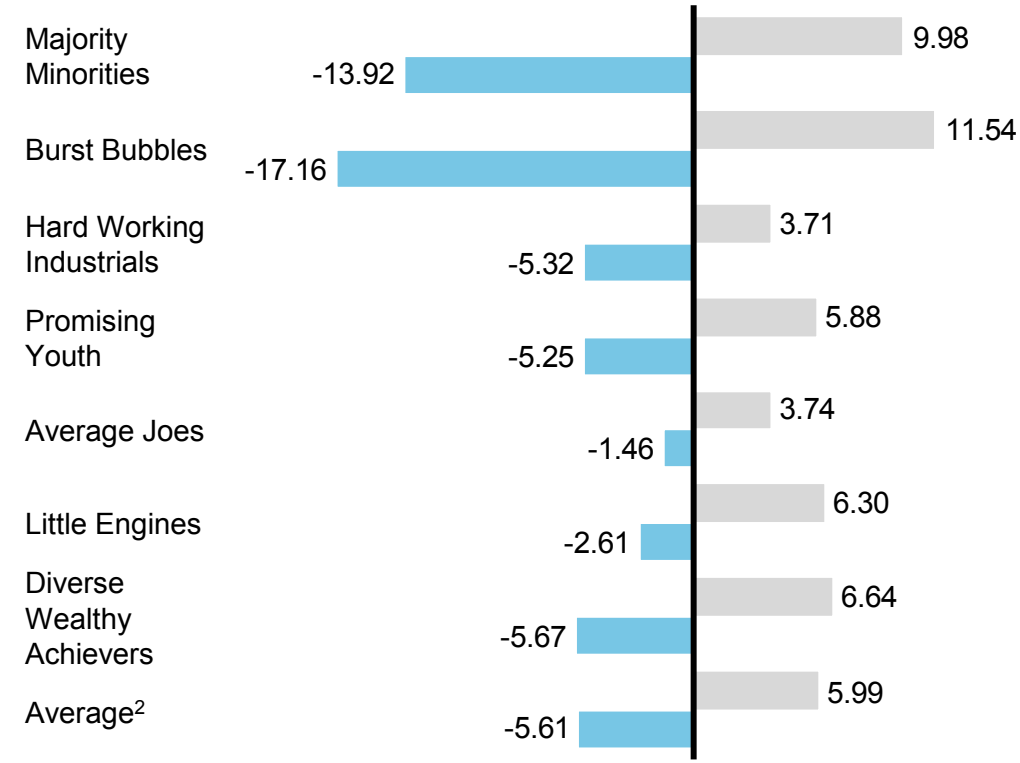
# Burst Bubbles experienced the largest drop in house prices during the recession at – decreasing by 17.6% annually

archetypes with the highest and lowest values

## Key takeaways

- Housing prices in the Diverse Wealthy Achievers are the highest with an average of $230,720 per dwelling
- Burst Bubbles experienced the fastest growth in housing prices from 2001 to 2007 at 11.54% annually, but were also most affected by the recession as prices fell at 17.16% p.a from 2007 to 2010
- Average Joes housing prices were the least affected by the recession, falling at the slowest rate of all the archetypes at 1.46%



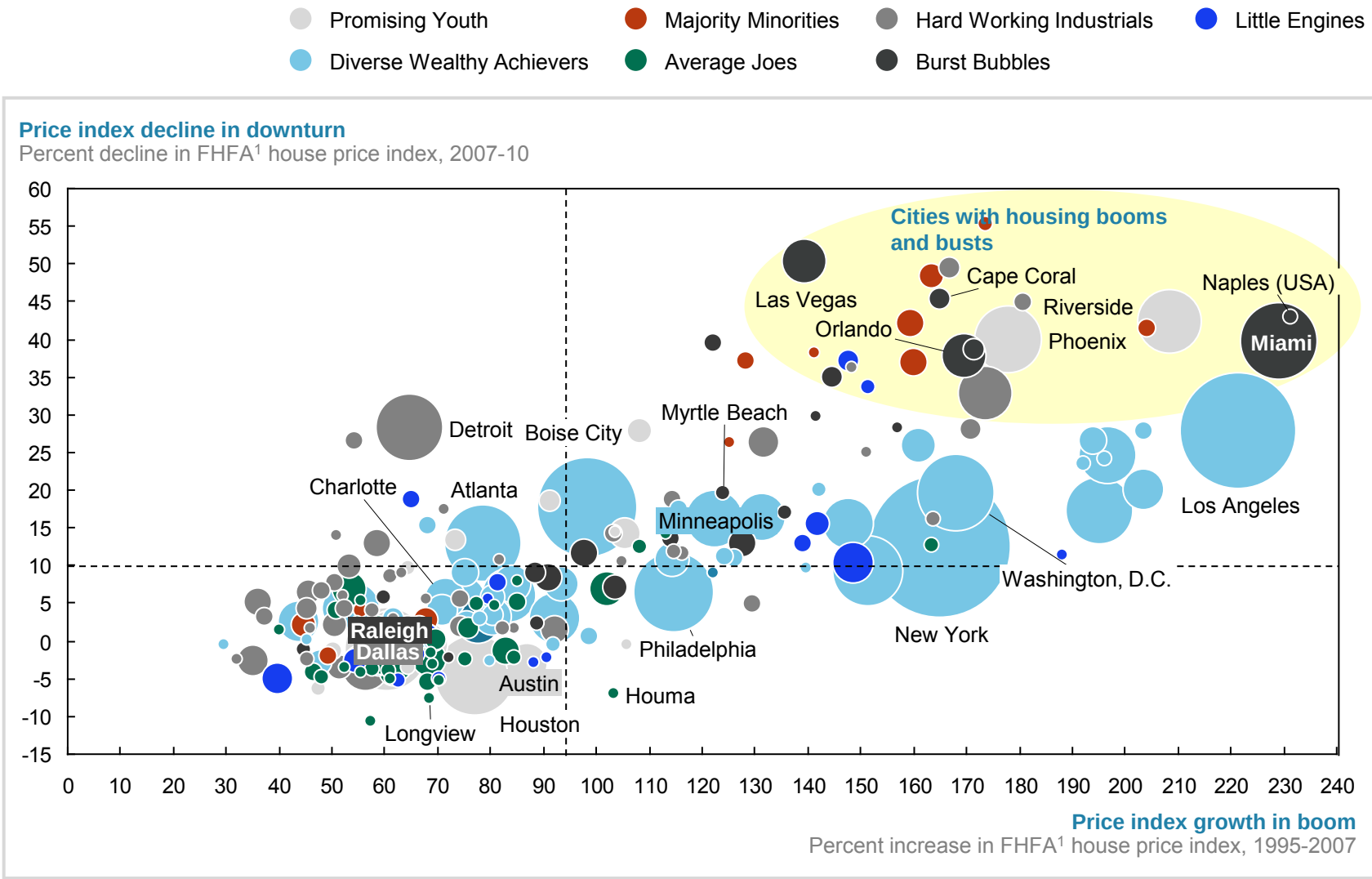




1 CAGR is Compounded Annual Growth Rate which is the smoothed annualized growth rate over time
2 Straight average of the 264 MSAs

Source: Moody's Analytics, National Association of Realtors; team analysis

# Several cities with exuberant construction booms have seen the steepest price declines during the downturn

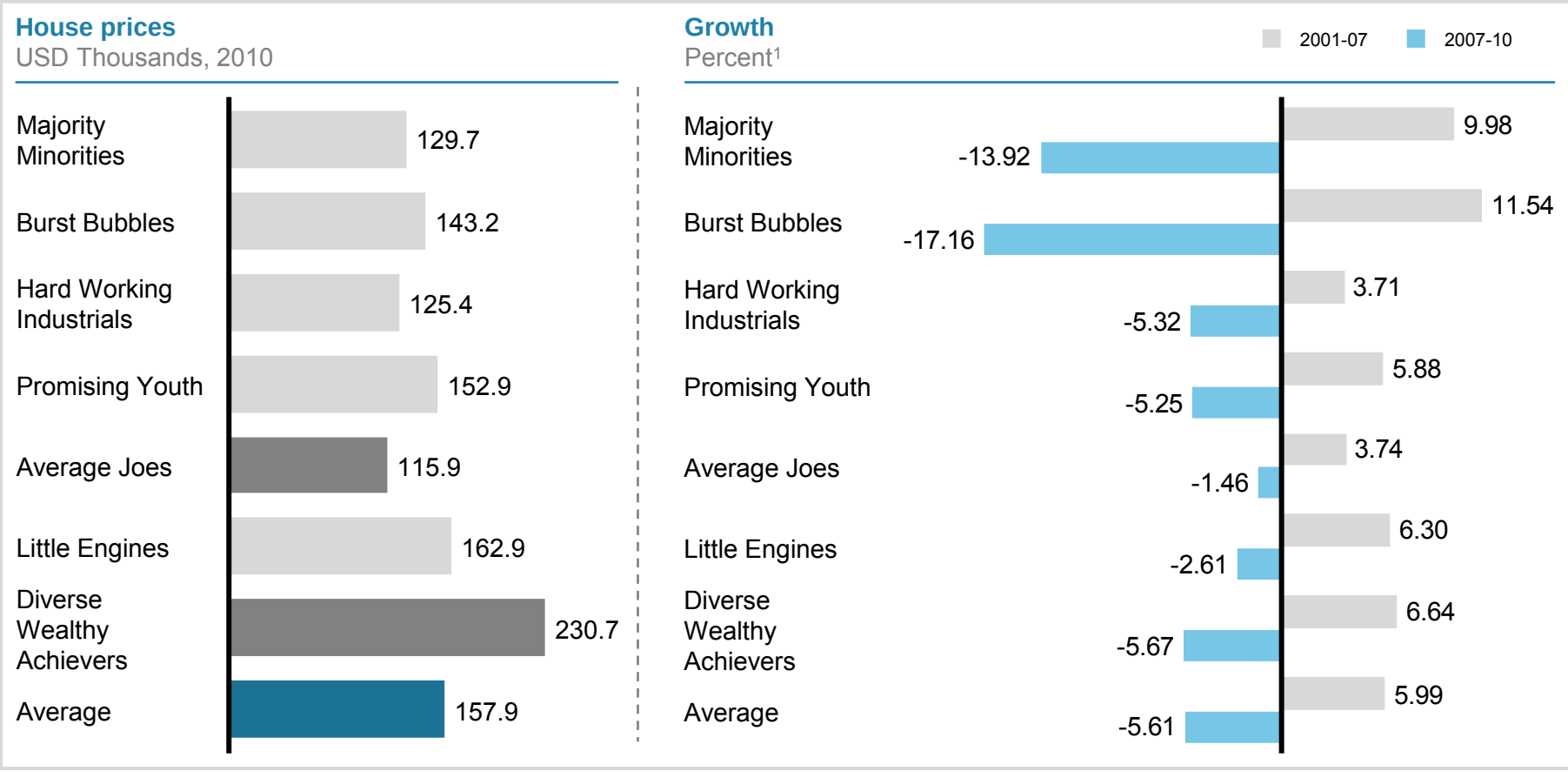
STEEPEST INDICATIVE OF POPULATION




1 Federal Finance Housing Agency

Source: US Census Bureau; Moody's Analytics; McKinsey Global Institute analysis

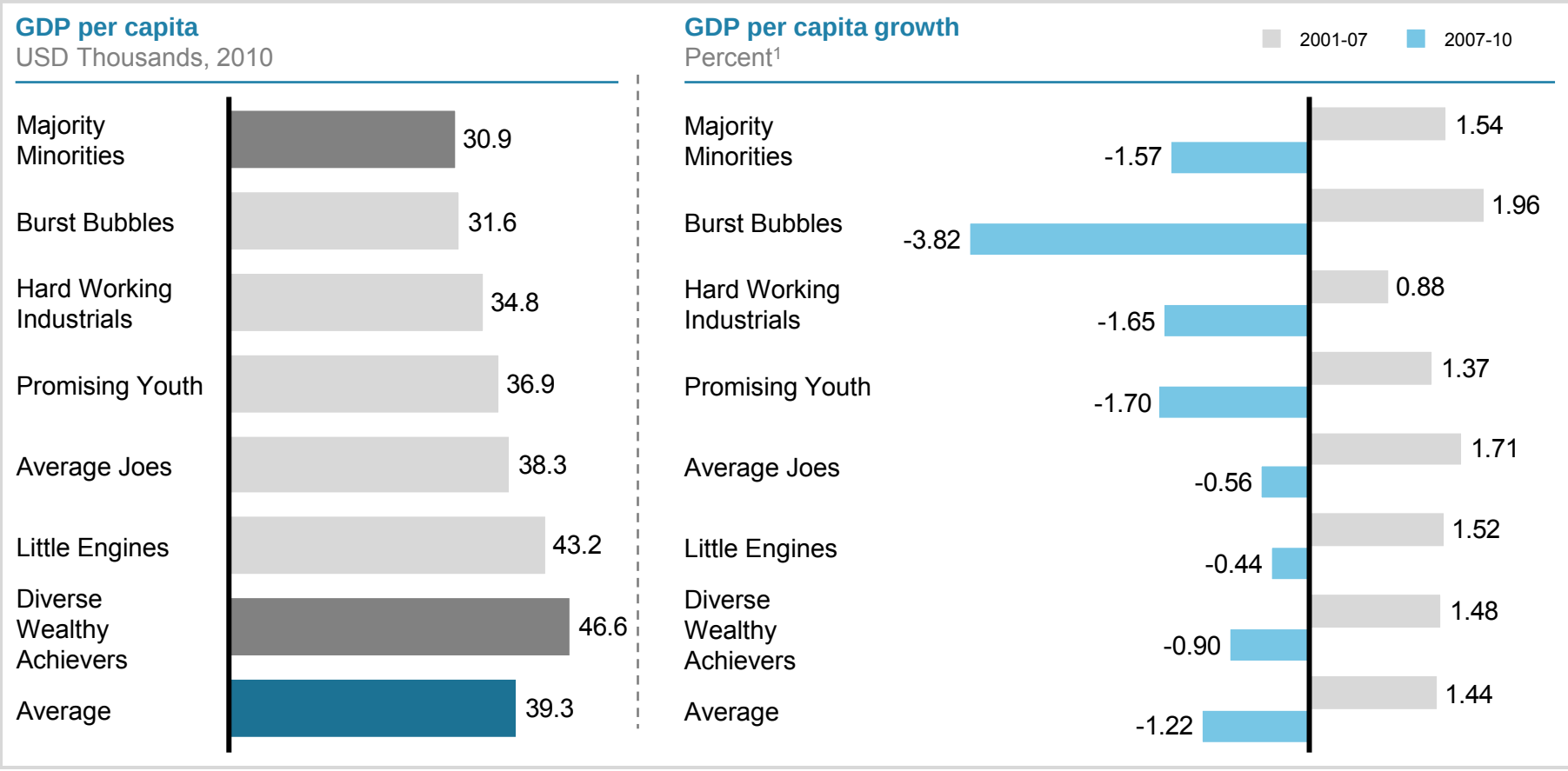
# Burst Bubbles and Majority Minorities experienced the largest decline in house prices, eroding resident wealth




1 CAGR is Compounded Annual Growth Rate which is the smoothed annualized growth rate over time

Source: Moody's Analytics; National Association of Realtors; team analysis

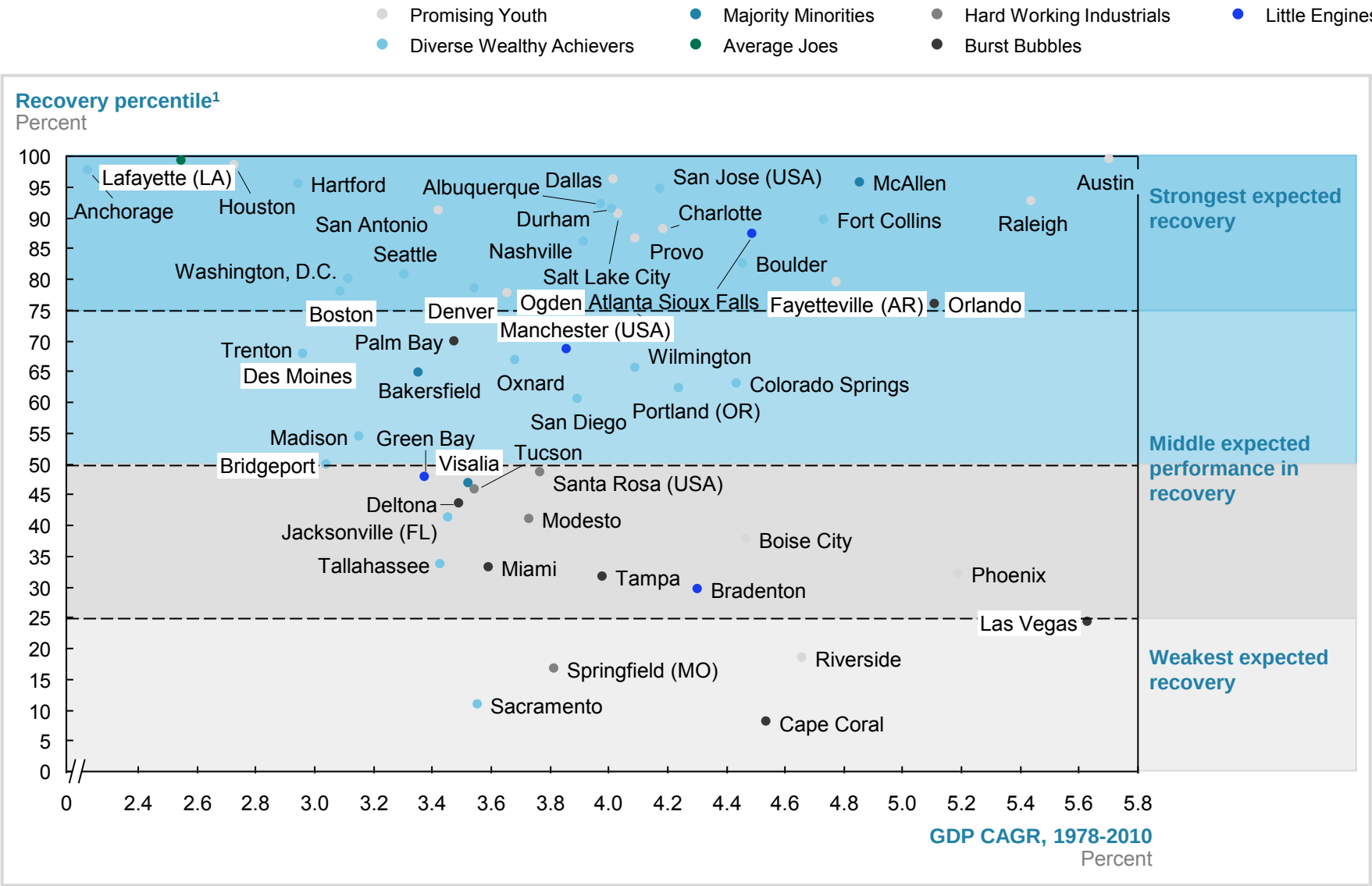
# Burst Bubbles and Majority Minorities also experienced sharpest GDP per capita declines




1 Growth rate is the Compounded Annual Growth Rate which is the smoothed annualized growth rate over time

Source: US Bureau of Economic Analysis; Moody's Analytics Estimates; team analysis

# Cities with deep property bubbles will continue to have weak recoveries




1 Recovery percentile measures the city's ranking relative to other large US cities based on the degree of GDP recovery by 2015 since the peak between 2006 and 2008

Source: Moody's Economy; McKinsey Global Institute

# Diverse Wealthy Achievers have the highest share of high-income earners – 24% earn more than 100k

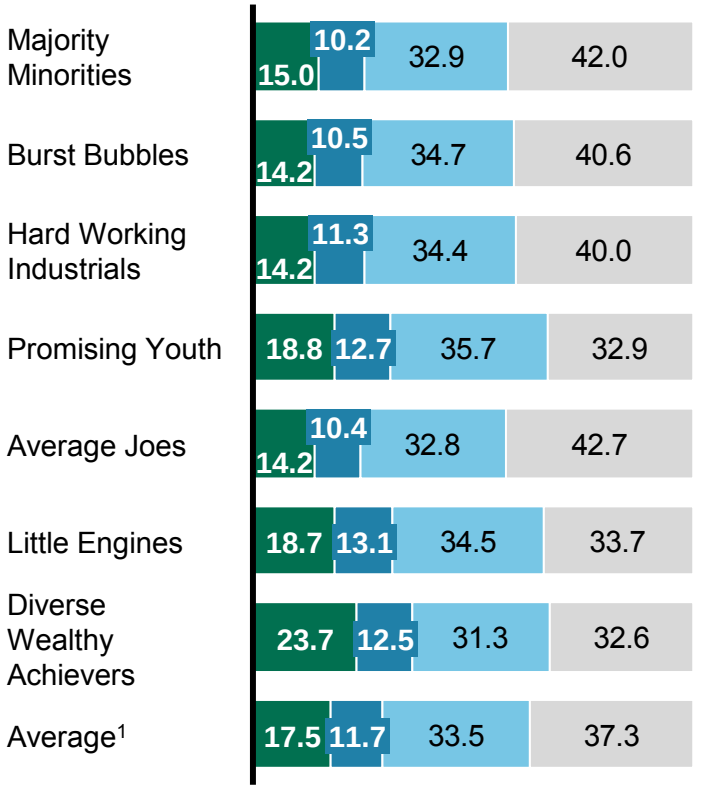
archetypes with the highest and lowest values

## Key takeaways

- Diverse Wealthy Achievers have the largest share of high-income earners as 36% of the population earn more than 75,000
- Average Joes and Majority Minorities have the highest proportion of low-income earners

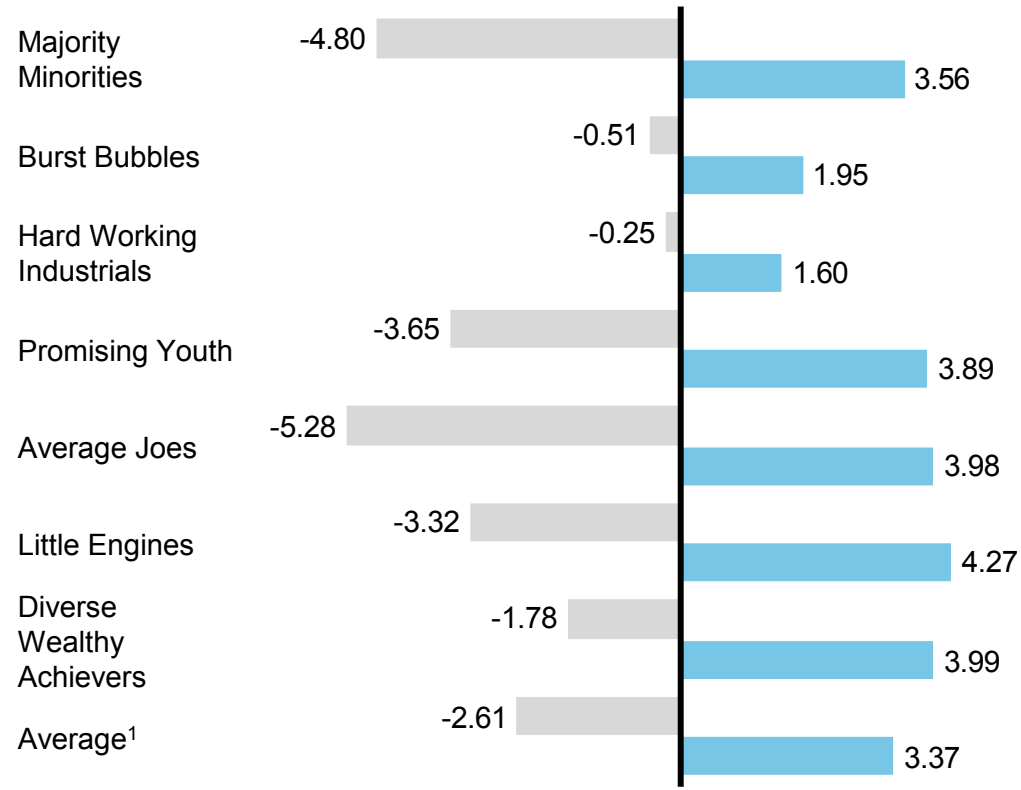
### Income distribution

Percent, 2010




### Growth (2005-10)

PP[2]




1 Straight average of the 264 MSAs
2 Percentage points

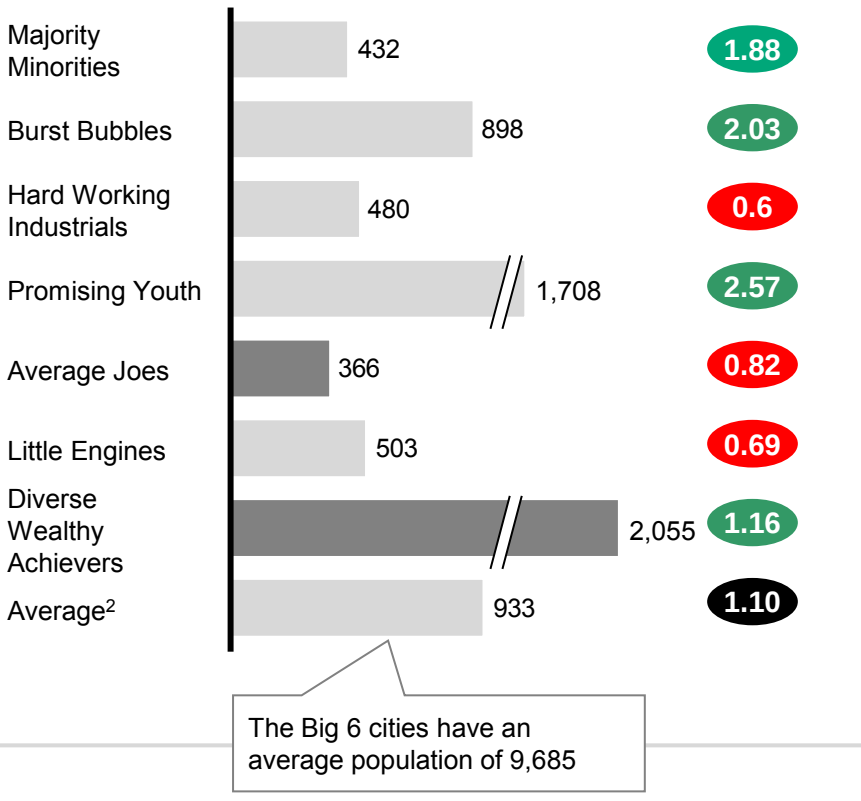
Source: U.S. Census Bureau; team analysis

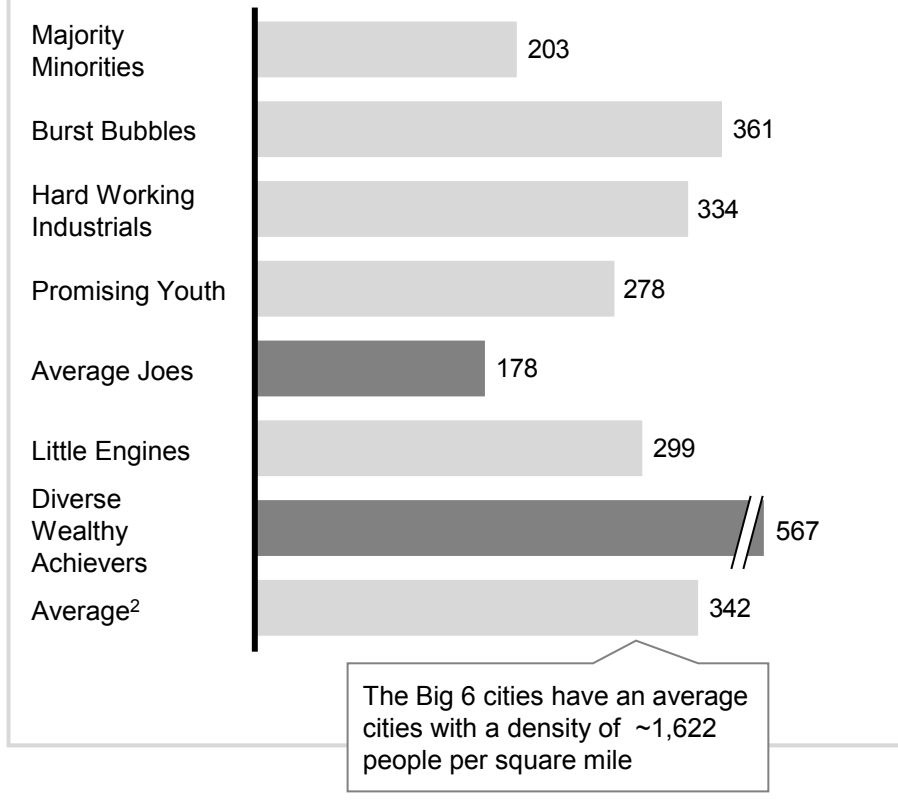
# The Average Joes are the least populated and dense cities

Worse than average | Better than average | archetypes with the highest and lowest values

## Key takeaways

- Diverse Wealthy Achievers are the largest and most dense cities – within this the Big 6 cities are extremely populous and dense
- Average Joes are the least populous cities and also the least dense
- Promising Youth cities are have been the fastest growing cities, growing at an average annual rate of 2.57% from 2001-2010
- Hard Working Industrials are the slowest growing cities at 0.6%




1 CAGR is Compounded Annual Growth Rate which is the smoothed annualized growth rate over time
2 Straight average of the 264 MSAs

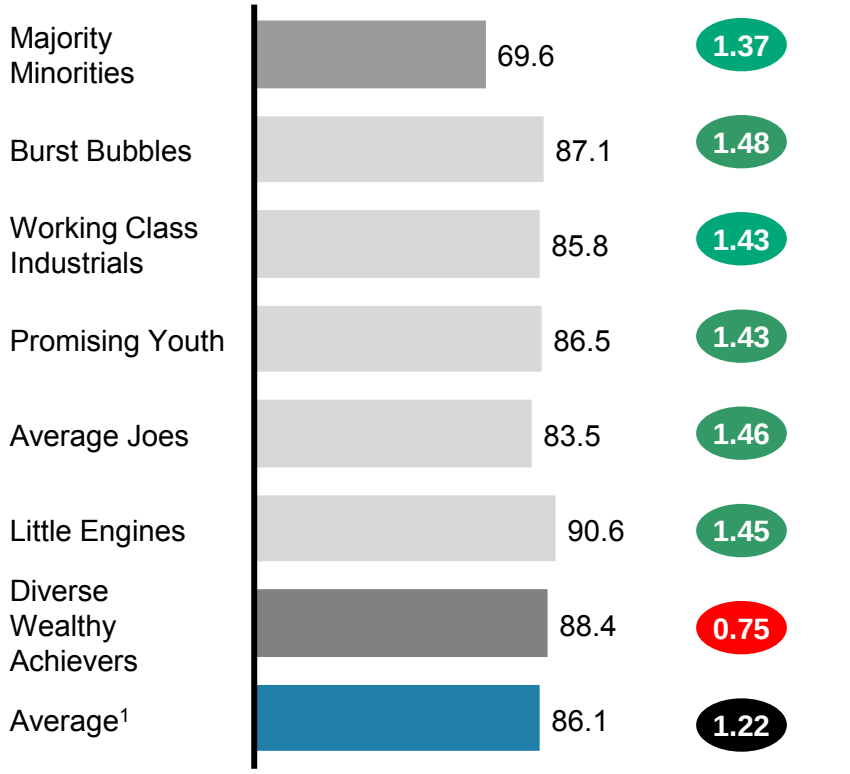
Source: U.S. Census Bureau; team analysis

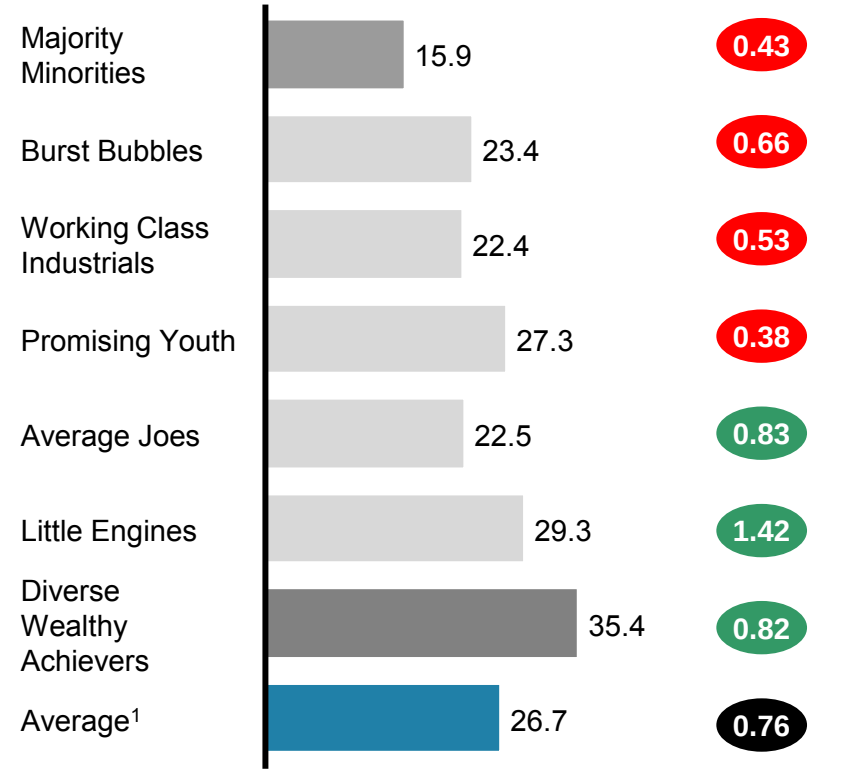
# The Majority Minorities are the least educated archetype – with only 15.9% of people with bachelor degrees

Worse than average | Better than average | archetypes with the highest and lowest values

## Key takeaways

- The Majority Minorities are the least educated archetype, while the Diverse Wealthy Achievers and the Little Engines have very high education attainment levels – with Little Engines growing the fastest in college attainment
- The archetypes with higher GDP per capita also have higher college attainment levels

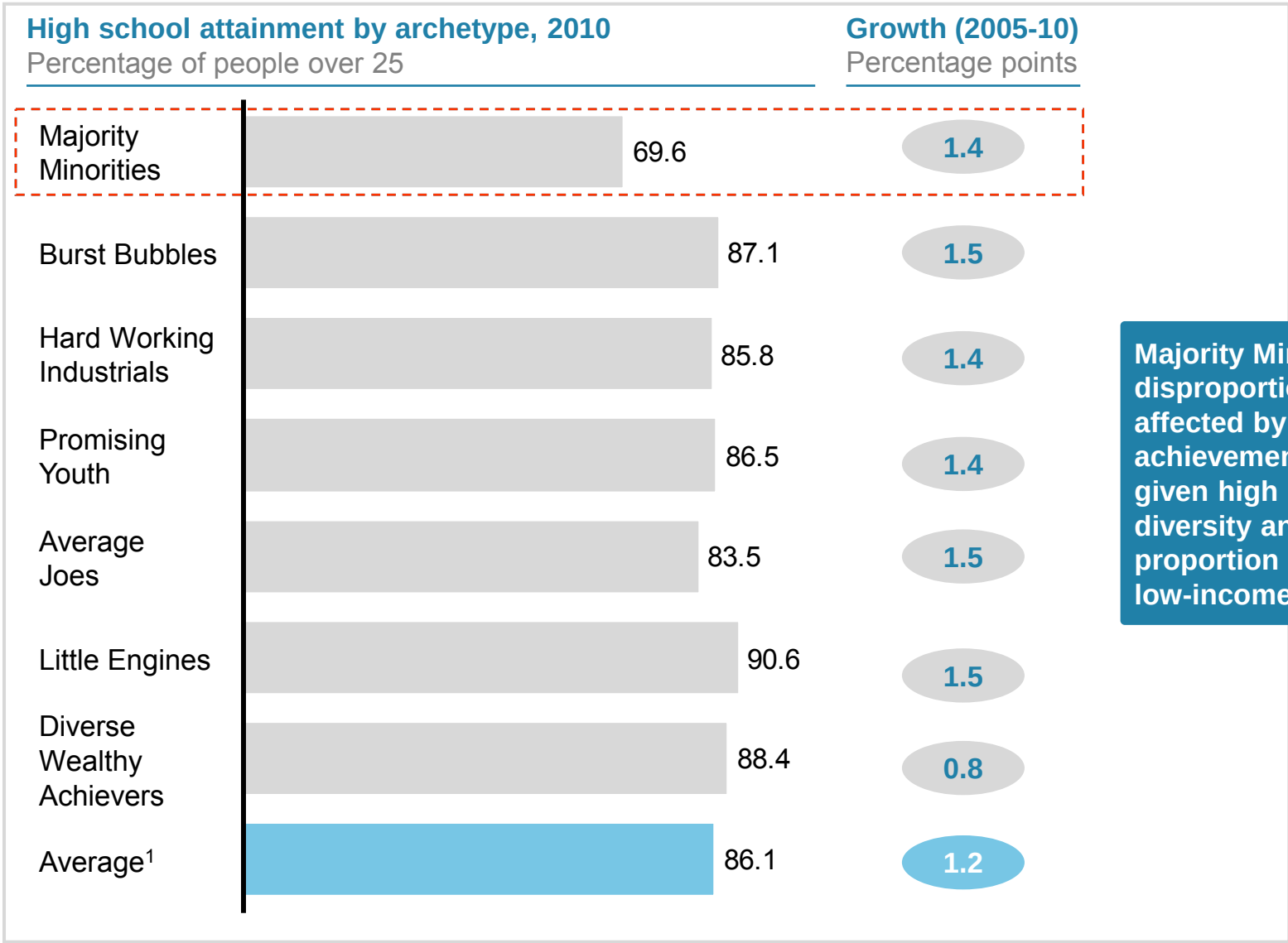



1 Straight average of the 264 MSAs
2 Percentage points

Source: American Community Survey 2010; team analysis

# Majority Minority cities have particularly poor student outcomes

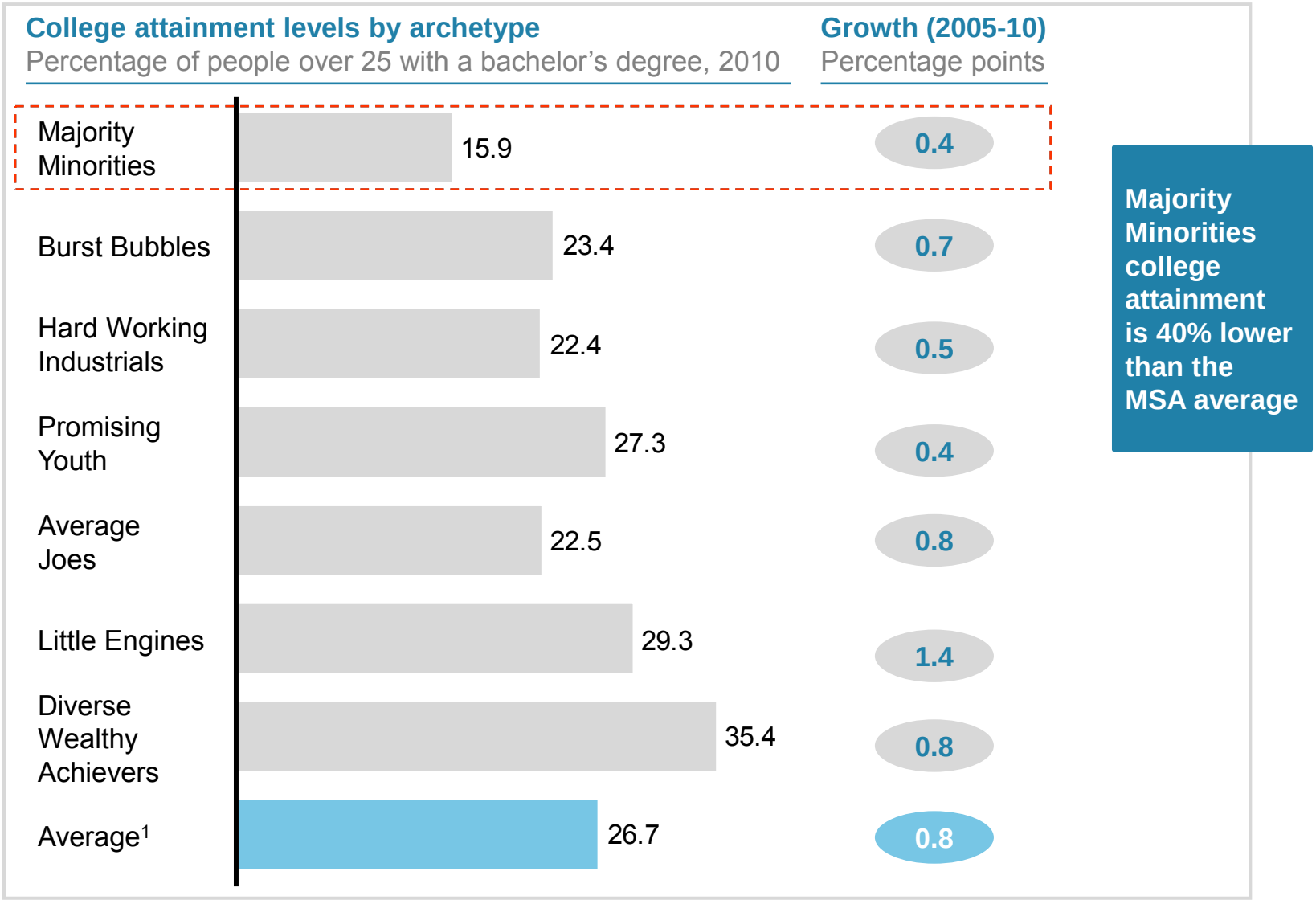



**Majority Minorities are disproportionately affected by the achievement gaps given high racial diversity and a large proportion of low-income residents**

1 Averages are weighted by cities per archetype

Source: American Community Survey 2010; team analysis

# Majority Minority cities also have the lowest college attainment - with only ~16% of people over 25 holding a bachelor's degree



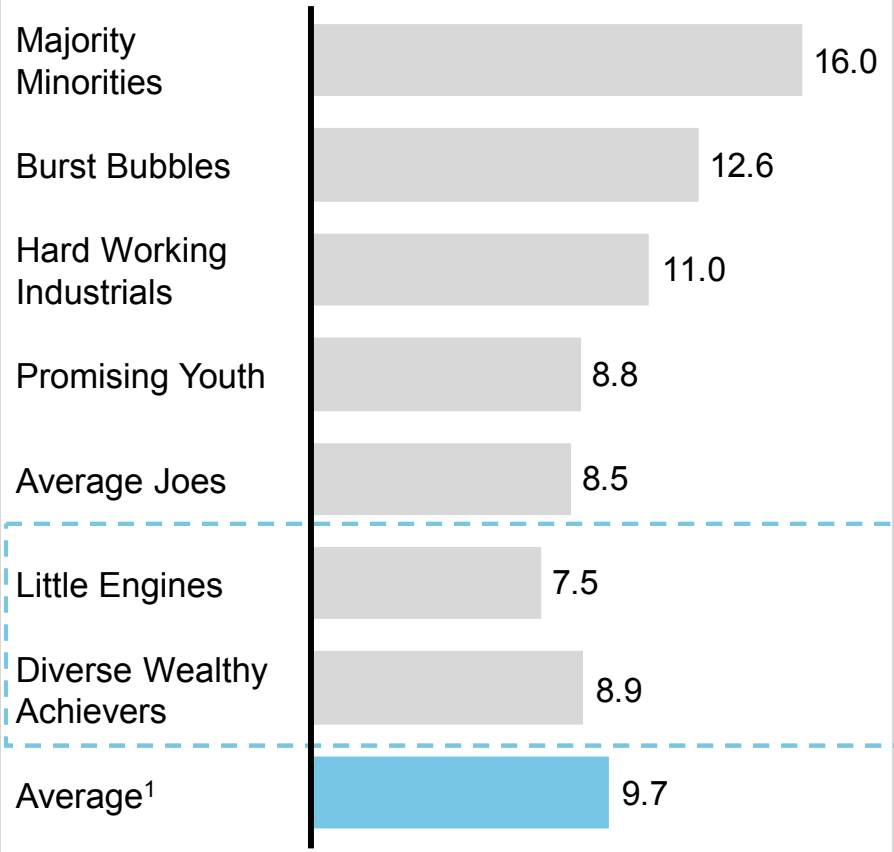

1 Averages are weighted by cities per archetype

Source: American Community Survey 2010; team analysis

# Cities with higher educational attainment levels generally have lower unemployment levels

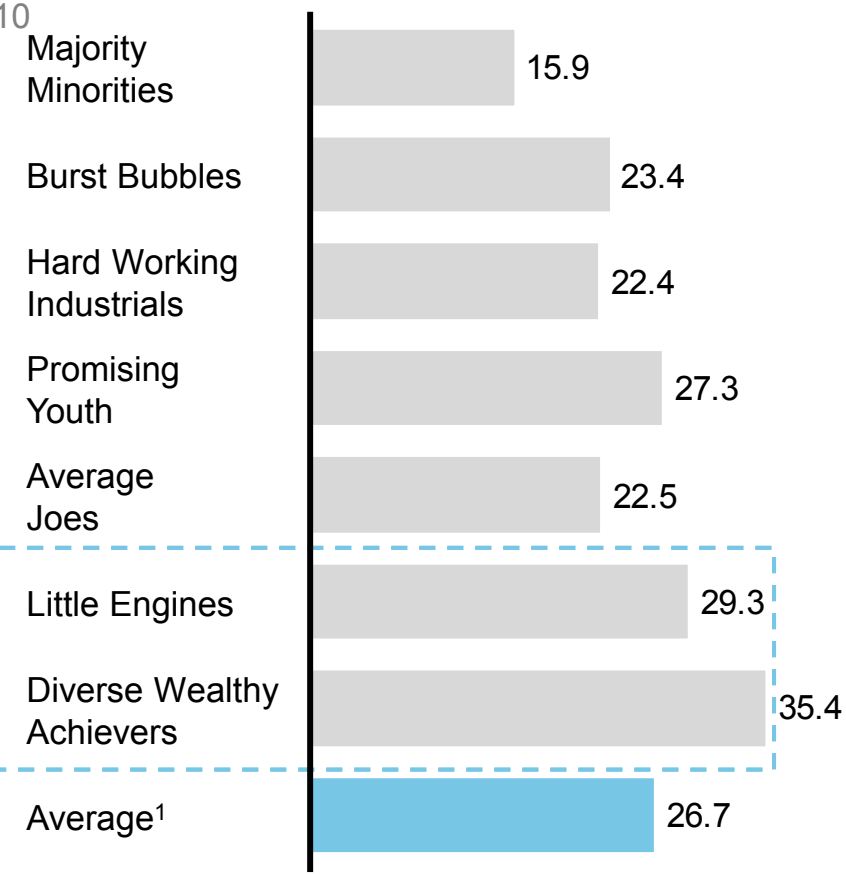
## Unemployment by archetype

Percent, 2010




## College attainment levels by archetype

Percentage of people over 25 with a bachelor's degree, 2010




**Diverse Wealthy Achievers and Little Engines have relatively higher college attainment and lower unemployment than the average MSA**

1 Averages are weighted by cities per archetype

Source: U.S. Census data; team analysis

# The Majority Minorities have the largest share of young people, while 33% of the Burst Bubbles are older than 50

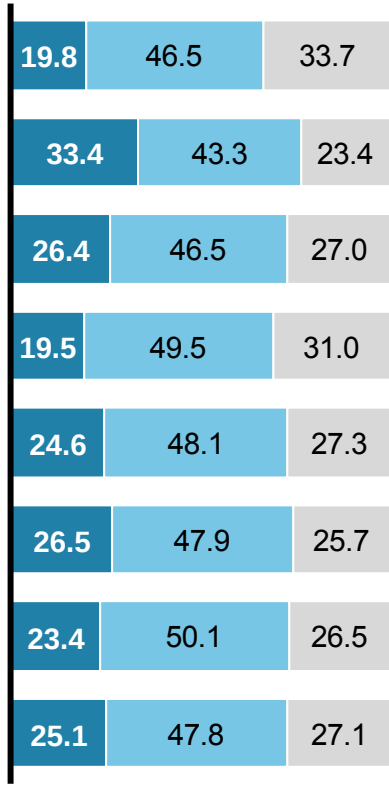
archetypes with the highest and lowest values

## Key takeaways

- 34% of the population of Majority Minorities are below age 19 years – the most diverse archetype is also the youngest
- 33% of individuals in Burst Bubbles are older than 50 years

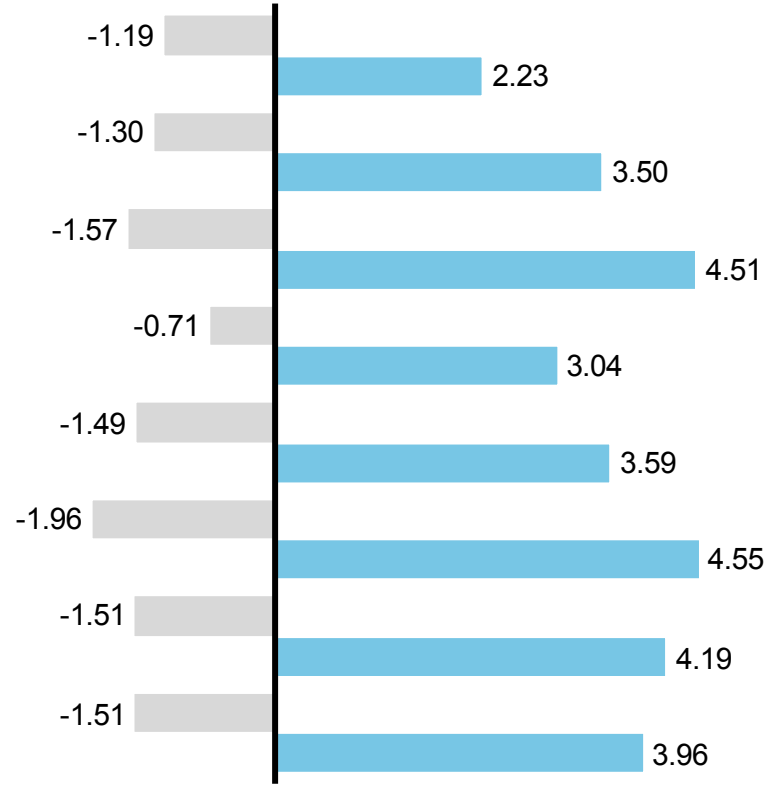
### Age distribution

Percent




### Growth (2001-10)

PP[2]




1 Straight average of the 264 MSAs
2 Percentage points

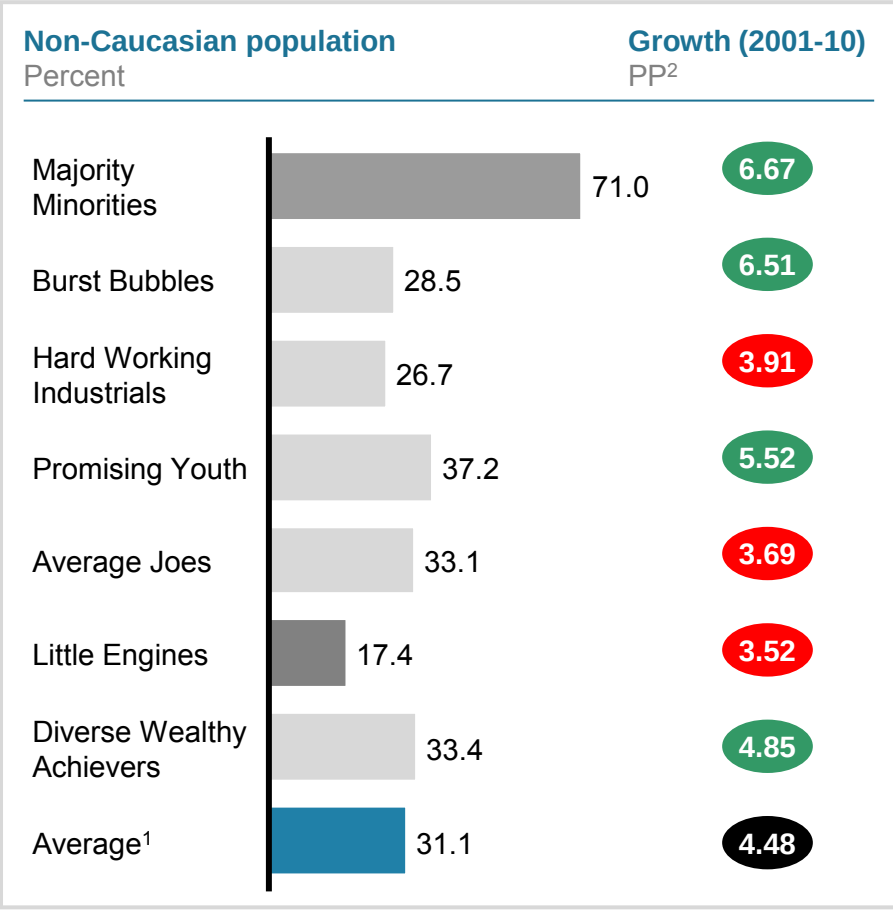
Source: U.S. Census Bureau; team analysis

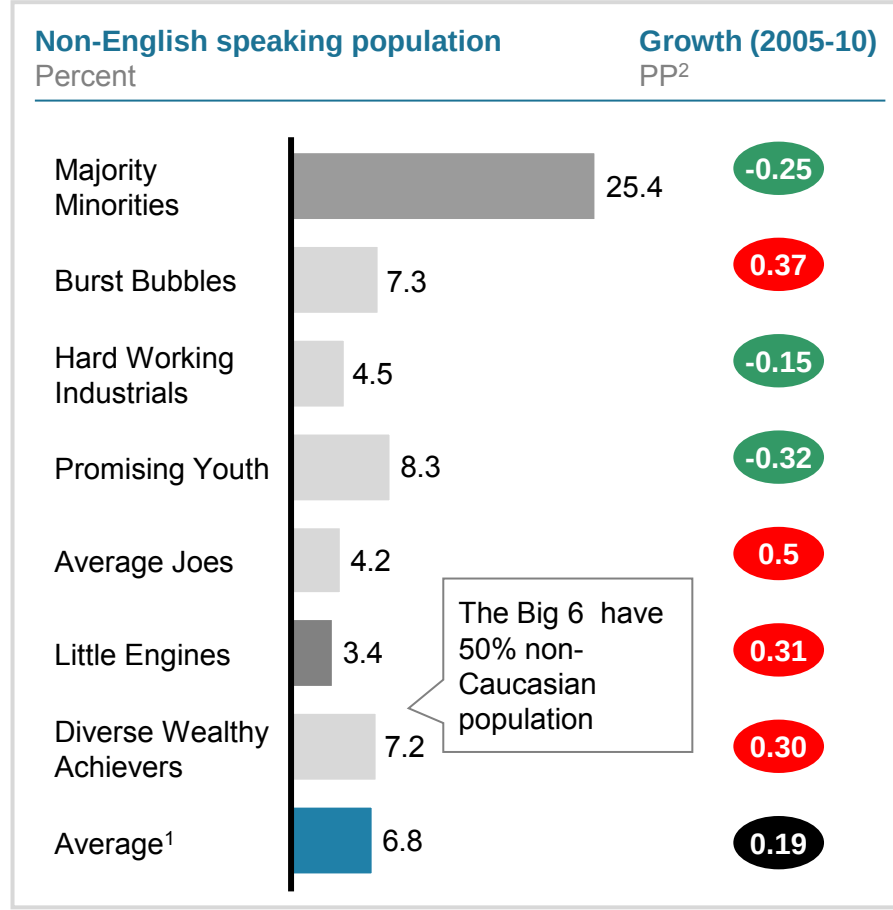
# 71% of the Majority Minorities are non-Caucasian whilst 83% of the Little Engines are Caucasian

Worse than average | Better than average | archetypes with the highest and lowest values

**Key takeaways**

- The Majority Minorities have predominantly non-Caucasian, non-English speaking population
- The Little Engines have predominantly Caucasian population
- The Big 6 have a very racially diverse population as they are 50% non-Caucasian



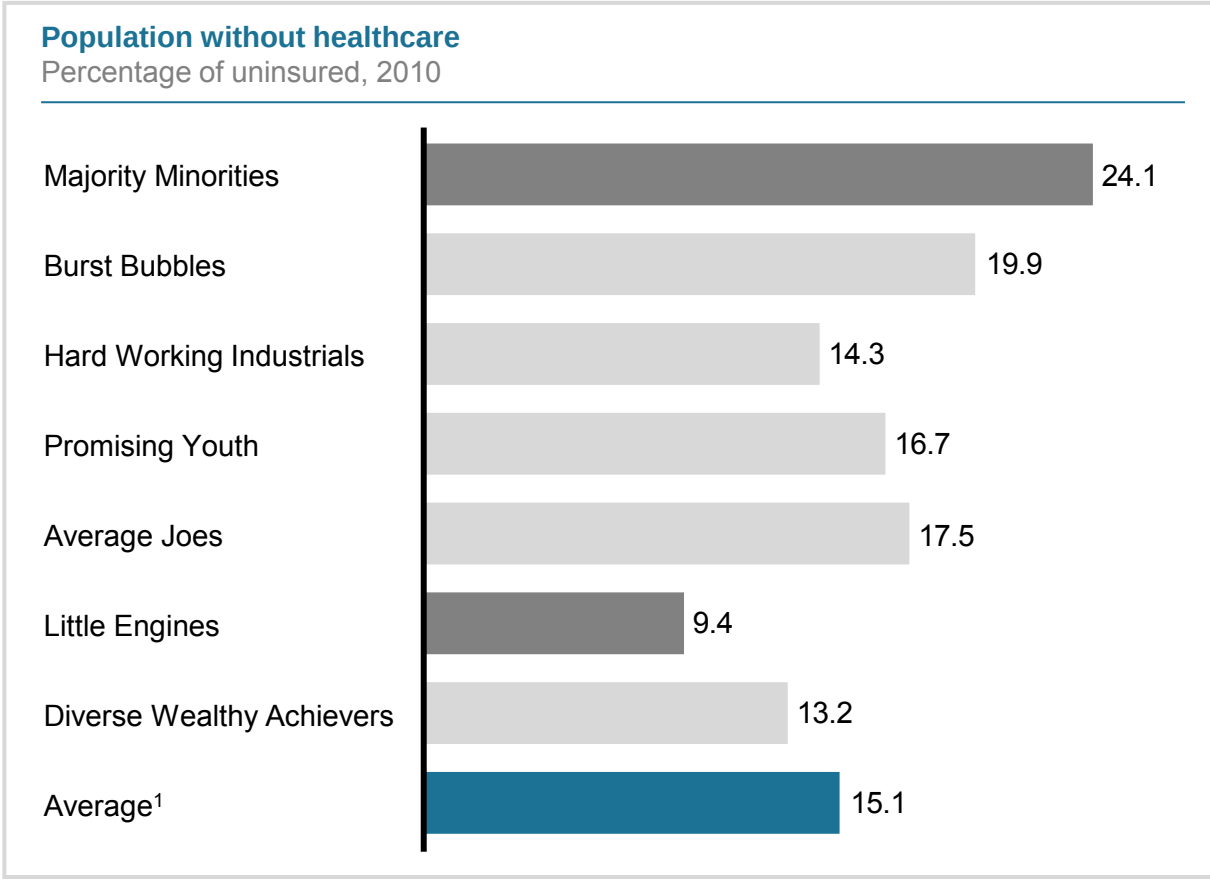




1 Straight average of the 264 MSAs
2 Percentage points

Source: U.S. Census Bureau (BOC): Population Estimates; Moody's Analytics Aggregated; team analysis

# 24% of the Majority Minorities population are uninsured whereas only 9% of the Little Engines population are uninsured

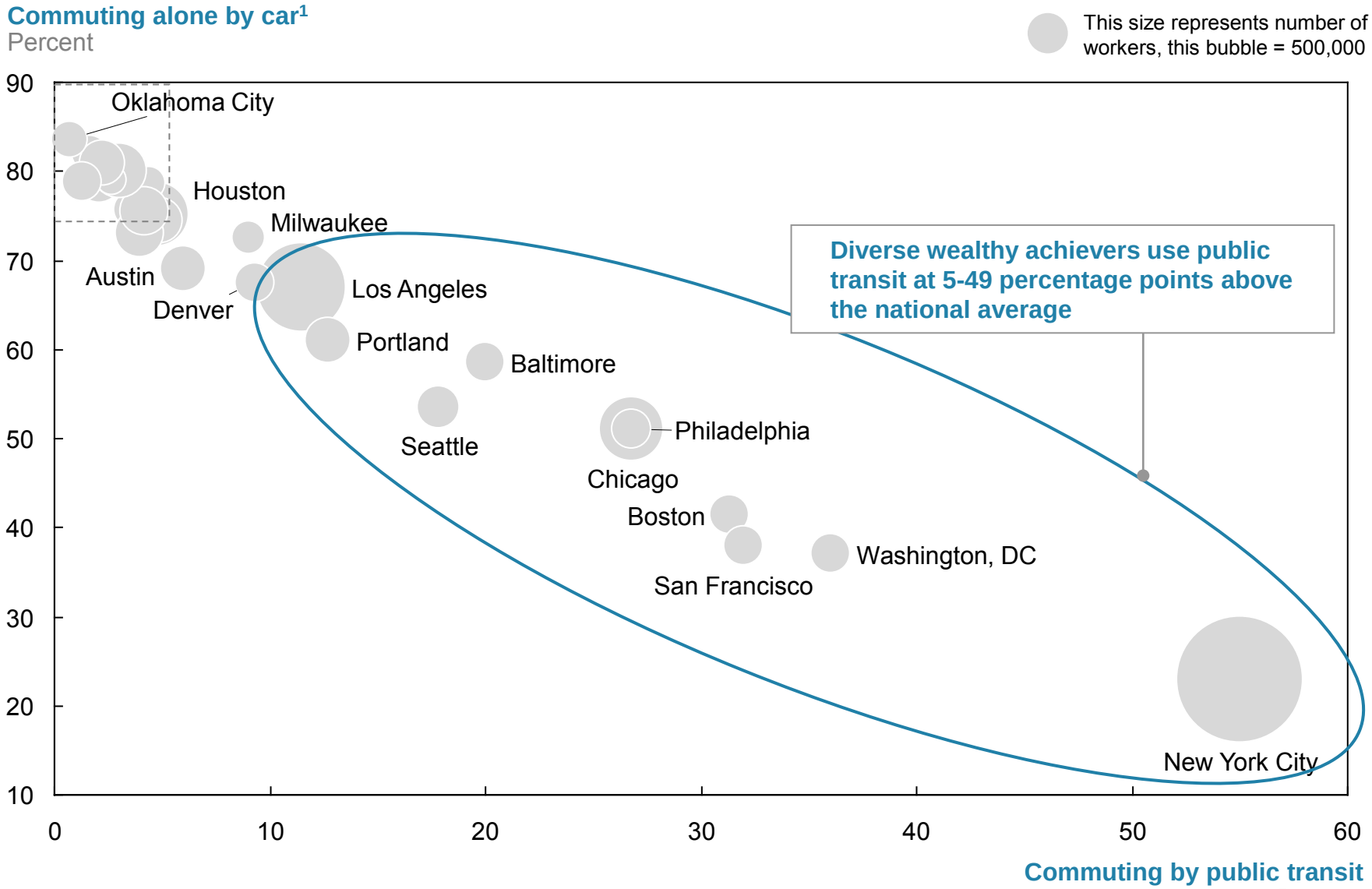
archetypes with the highest and lowest values




1 Straight average of the 264 MSAs

Source: American Community Survey; team analysis

# Diverse Wealthy Achievers use substantially more public transit than other US cities



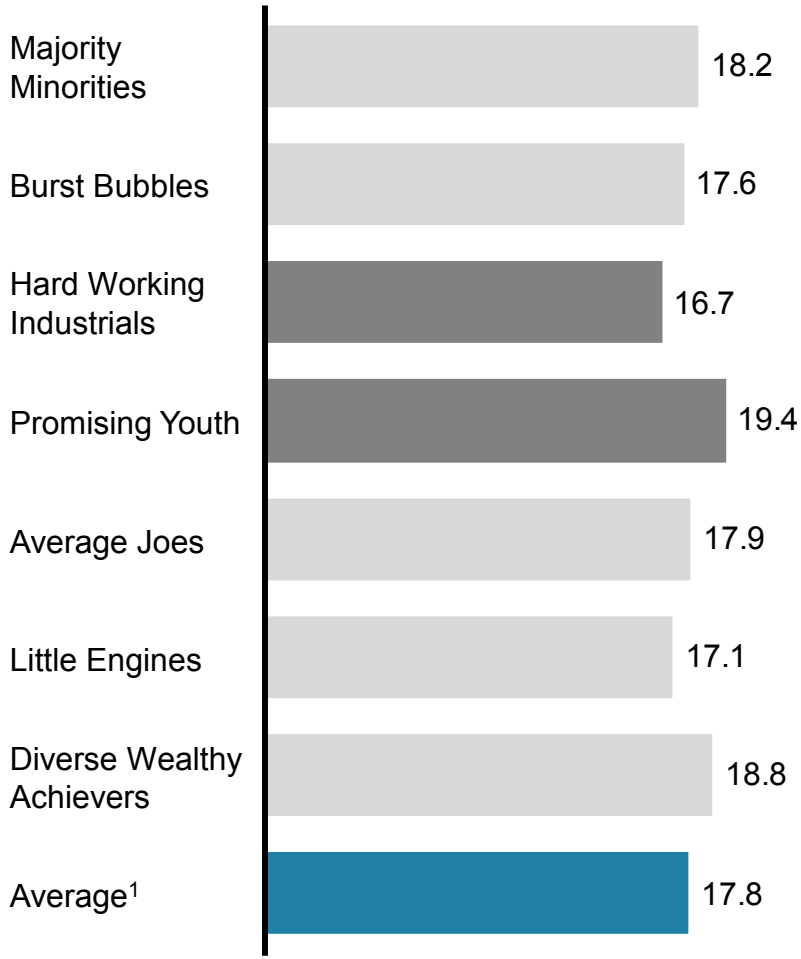

1 This does not capture all commuters. There are also telecommuters, etc.
Source: National Household Travel Survey 2009; team analysis

# Hard Working Industrials have the lowest city bond ratings while the Promising Youth have the highest city bond rating

archetypes with the highest and lowest values

## City bond rating

Latest bond rating



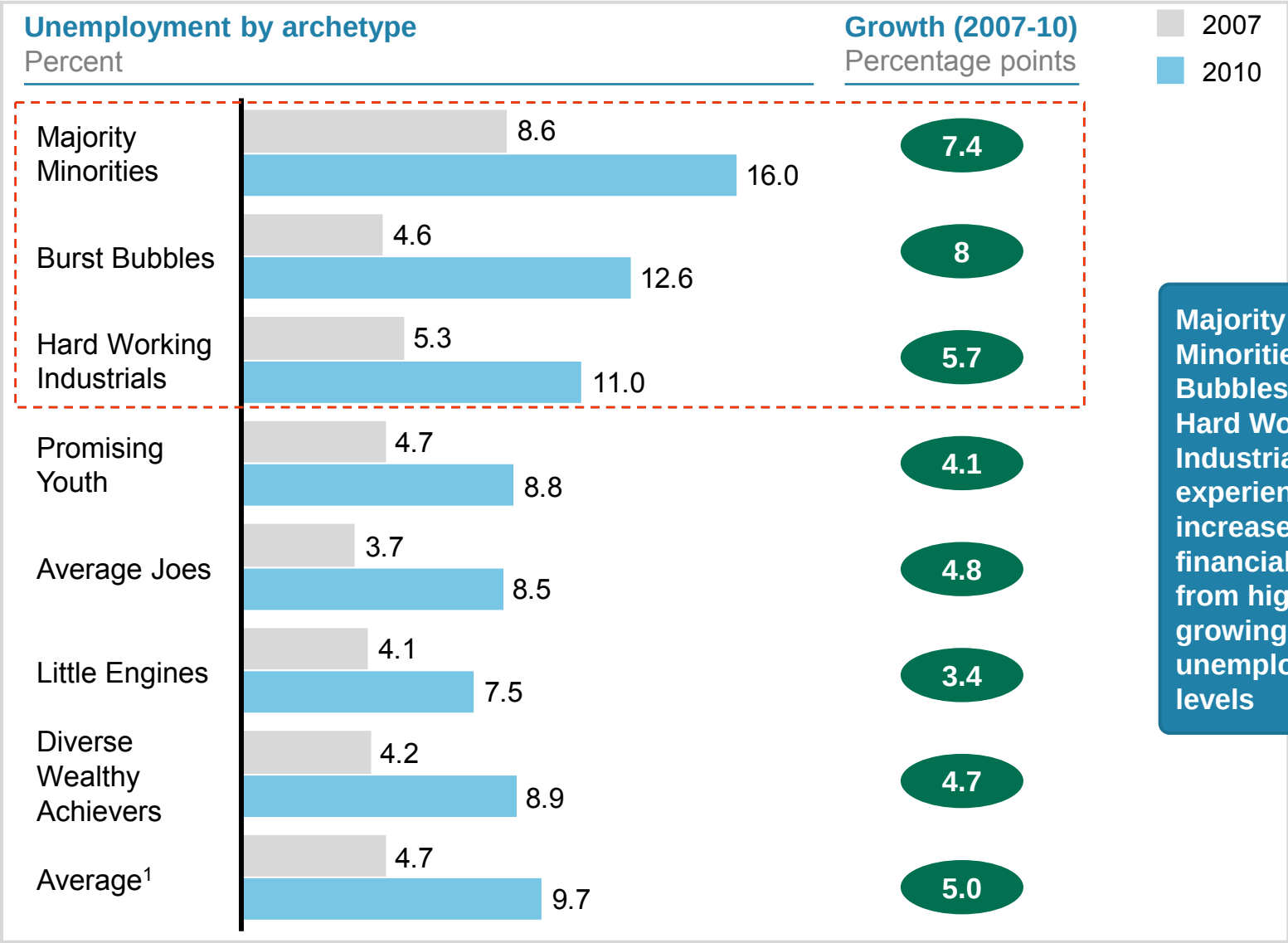

## Understanding the bond ratings

| Moody's rating | Numerical rating |
|---|---|
| Aaa | 21 |
| Aa1 | 20 |
| Aa2 | 19 |
| Aa3 | 18 |
| A1 | 17 |
| A2 | 16 |
| A3 | 15 |
| Baa1 | 14 |
| Baa2 | 13 |
| Baa3 | 12 |
| Ba1 | 11 |
| Ba2 | 10 |
| Ba3 | 9 |
| B1 | 8 |
| B2 | 7 |
| B3 | 6 |
| Caa1 | 5 |
| Caa2 | 4 |
| Caa3 | 3 |
| Ca | 2 |
| C | 1 |

1 Straight average of the 264 MSAs

Source: Moody's Analytics; team analysis

# The recession is increasing the number of unemployed residents dependent on city resources




**Majority Minorities, Burst Bubbles, and Hard Working Industrials will experience increased financial strain from high and fast growing unemployment levels**

1 Averages are weighted by cities per archetype

Source: US Census data; team analysis

# Demographic changes are increasing the number of young and elderly residents dependent on city resources

**Proportion of young and old residents per archetype, 2010**
Percent

| | Younger population Percent <19 years | Growth (2001-10) Percentage points | Older population Percent >50 years | Growth (2001-10) Percentage points |
|---|---|---|---|---|
| Majority Minorities | 33.7 | -1.2 | 19.8 | 2.2 |
| Burst Bubbles | 23.4 | -1.3 | 33.4 | 3.5 |
| Hard Working Industrials | 27.0 | -1.6 | 26.4 | 4.5 |
| Promising Youth | 31.0 | -0.7 | 19.5 | 3 |
| Average Joes | 27.3 | -1.5 | 24.6 | 3.6 |
| Little Engines | 25.7 | -2 | 26.5 | 4.6 |
| Diverse Wealthy Achievers | 26.5 | -1.5 | 23.4 | 4.2 |
| Average[1] | 27.0 | -1.5 | 25.1 | 4 |

- **All city archetypes will need to address the additional needs of their aging populations** (e.g., healthcare, elderly-friendly infrastructure) – particularly Burst Bubbles and Hard Working Industrials
- Majority minority cities will also experience greater financial strain as a large share of the population **are under 19 and dependent on city resources** (e.g., schools)

1 Averages are weighted by cities per archetype
Source: US Census data; team analysis

# City archetypes

## City archetypes

A archetype profiles

B Comparative analysis

C **City lists**

# Majority Minorities

## 16 cities

- Bakersfield, CA
- Brownsville, TX
- El Centro, CA
- El Paso, TX
- Fresno, CA
- Hanford, CA
- Madera, CA
- Merced, CA
- Laredo, TX
- McAllen, TX
- Salinas, CA
- Stockton, CA
- Visalia, CA
- Yakima, WA
- Yuba City, CA
- Yuma, AZ



Source: Team analysis

# Burst Bubbles

## 20 cities

- Bend, OR
- Cape Coral, FL
- Deltona, FL
- Eugene, OR
- Lake Havasu City, AZ
- Lakeland, FL
- Las Vegas, NV
- Medford, OR
- Miami, FL
- Naples, FL
- Myrtle Beach, SC
- Ocala, FL
- Orlando, FL
- Palm Bay, FL
- Port St. Lucie, FL
- Prescott, AZ
- Punta Gorda, FL
- Redding, CA
- Reno, NV
- Tampa, FL



Source: Team analysis

# Hard Working Industrials

## 53 cities

- Akron, OH
- Albany, GA
- Anderson, SC
- Asheville, NC
- Atlantic City, NJ
- Augusta, GA-SC
- Burlington, NC
- Canton, OH
- Chico, CA
- Dayton, OH
- Decatur, AL
- Detroit, MI
- Elkhart, IN
- Erie, PA
- Evansville, IN-KY
- Flint, MI
- Florence, SC
- Fort Wayne, IN
- Gainesville, GA
- Grand Rapids, MI
- Greensboro, NC
- Holland, MI
- Hickory, NC
- Jackson, MI
- Janesville, WI
- Kalamazoo, MI
- Lancaster, PA
- Louisville, KY-IN
- Lynchburg, VA
- Modesto, CA
- Monroe, MI
- Muskegon, MI
- Niles, MI
- Panama City, FL
- Pensacola, FL
- Providence, RI-MA
- Pueblo, CO
- Racine, WI
- Reading, PA
- Rockford, IL
- Rocky Mount, NC
- Saginaw, MI
- Salem, OR
- Santa Rosa, CA
- South Bend, IN-MI
- Springfield, MO
- Toledo, OH
- Tucson, AZ
- Vallejo, CA
- Wichita, KS
- Wichita Falls, TX
- Winston, NC
- Youngstown, OH-PA

Source: Team analysis

# Promising Youth

## 19 cities

- Austin, TX
- Boise City, ID
- Charlotte, NC-SC
- Clarksville, TN-KY
- Dallas, TX
- Dover, DE
- Fayetteville, AR-MO
- Greeley, CO
- Houston, TX
- Jacksonville, NC
- Kennewick, WA
- Killeen, TX
- Ogden, UT
- Phoenix, AZ
- Provo, UT
- Raleigh, NC
- Riverside, CA
- Salt Lake City, UT
- San Antonio, TX



Source: Team analysis

# Average Joes

## 47 cities

- Abilene, TX
- Alexandria, LA
- Amarillo, TX
- Athens, GA
- Baton Rouge, LA
- Beaumont, TX
- Blacksburg, VA
- Bloomington, IN
- Charleston, WV
- Chattanooga, TN-GA
- College Station, TX
- Columbus, GA-AL
- Corpus Christi, TX
- Fayetteville, NC
- Fort Smith, AR-OK
- Greenville, NC
- Greenville, SC
- Gulfport, MS
- Houma, LA
- Huntington, WV-KY-OH
- Jackson, MS
- Johnson City, TN
- Joplin, MO
- Kingsport, TN-VA
- Lafayette, LA
- Lake Charles, LA
- Las Cruces, NM
- Longview, TX
- Lubbock, TX
- Macon, GA
- Memphis, TN-MS-AR
- Mobile, AL
- Monroe, LA
- Montgomery, AL
- New Orleans, LA
- Oklahoma City, OK
- Parkersburg, WV-OH
- Pascagoula, MS
- Scranton, PA
- Shreveport, LA
- Spartanburg, SC
- Terre Haute, IN
- Tulsa, OK
- Tuscaloosa, AL
- Tyler, TX
- Vineland, NJ
- Waco, TX



Source: Team analysis

# Little Engines

## 50 cities

- Albany, NY
- Allentown, PA-NJ
- Appleton, WI
- Bangor, ME
- Barnstable Town, MA
- Bellingham, WA
- Billings, MT
- Binghamton, NY
- Bremerton, WA
- Buffalo, NY
- Cedar Rapids, IA
- Davenport, IA-IL
- Burlington, VT
- Cleveland, OH
- Duluth, MN-WI
- Eau Claire, WI
- Fargo, ND-MN
- Green Bay, WI
- Harrisburg, PA
- Honolulu, HI
- Jefferson City, MO
- Kingston, NY
- Lansing, MI
- Lincoln, NE
- Little Rock, AR
- Manchester, NH
- Norwich, CT
- Omaha, NE-IA
- Peoria, IL
- Olympia, WA
- Oshkosh, WI
- Pittsburgh, PA
- Portland, ME
- Poughkeepsie, NY
- Roanoke, VA
- Rochester, MN
- Rochester, NY
- St. Cloud, MN
- Sioux Falls, SD
- Spokane, WA
- Springfield, IL
- Springfield, MA
- State College, PA
- Syracuse, NY
- Utica-Rome, NY
- Waterloo, IA
- Topeka, KS
- Virginia Beach, VA-NC
- Worcester, MA
- York, PA



Source: Team analysis

# Diverse Wealthy Achievers

## 53 cities

- Albuquerque, NM
- Anchorage, AK
- Ann Arbor, MI
- Baltimore, MD
- Birmingham, AL
- Bloomington, IL
- Boston, MA-NH
- Boulder, CO
- Champaign, IL
- Charleston, SC
- Bridgeport, CT
- Charlottesville, VA
- Cincinnati, OH-KY-IN
- Colorado Springs, CO
- Columbia, MO
- Columbia, SC
- Columbus, OH
- Denver, CO
- Des Moines, IA
- Durham, NC
- Fort Collins, CO
- Gainesville, FL
- Hagerstown, MD-WV
- Hartford, CT
- Huntsville, AL
- Iowa City, IA
- Jacksonville, FL
- Indianapolis, IN
- Kansas City, MO-KS
- Knoxville, TN
- Lafayette, IN
- Lexington, KY
- Madison, WI
- Milwaukee, WI
- Minneapolis, MN
- Nashville, TN
- New Haven, CT
- Oxnard, CA
- Philadelphia, PA-NJ-DE-MD
- Portland, OR-WA
- Richmond, VA
- Sacramento, CA
- St. Louis, MO-IL
- San Diego, CA
- San Luis Obispo, CA
- Santa Barbara, CA
- San Jose, CA
- Santa Cruz, CA
- Savannah, GA
- Seattle, WA
- Tallahassee, FL
- Trenton, NJ
- Wilmington, NC



Source: Team analysis

# Diverse Wealthy Achievers (Big Six)

## 6 cities

- Atlanta, GA
- Chicago, IL-IN-WI
- Los Angeles, CA
- New York, NY-NJ-PA
- San Francisco, CA
- Washington, DC-VA-MD-WV



Source: Team analysis

# Contents

# Interviews conducted (1/2)

## External interviews

- Alan Berube, Brookings Institution
- Ben Berkowitz, See Click Fix
- Ben Metcalf, Senior Advisor to HUD's Office of Multifamily Housing Programs
- Beth Osborne, Senior Advisor DOT
- Bracken Hendricks, Center for American Progress
- Bruce Katz, Brookings Institute
- Carol Galante Acting Federal Housing Administration (FHA) Commissioner and Assistant Secretary for Housing (HUD)
- Dan Lurie, Former Senior Advisor (HUD)
- Derek Douglas, University of Chicago, Former WH Urban Affairs
- Don Chen, Ford Foundation
- Jay Nath- Chief Innovations Officer – San Francisco
- Jonathan Rose, President Jonathan Rose Companies
- Joseph Ho, Senior Advisor, Australian Department of the Prime Minister & Cabinet
- Justin Ginsburgh, Governor Cuomo Urban Policy Advisor
- Pablo Farias, Ford Foundation
- Robert Reich, UC Berkeley, Former Secretary of Labor
- Sarah Wartell, Urban Institute
- Victor Rubin, Policy Link

## Working sessions and interviews with Living Cities staff

- Arthur Burris, Living Cities
- Ben Hect, Living Cities
- Carmen Rojas, Living Cities
- David Lafleur, Living Cities
- Elodie Baquerot, Living Cities
- Marian Urquilla, Living Cities
- Nadia Owusu, Living Cities
- Robin Hacke, Living Cities
- Sherrie Deans, Living Cities

# Interviews conducted (2/2)

## McKinsey internal interviews

- Alison Barman (Itasca project)
- Ben Cheatham (Infrastructure, Public safety)
- Beth Kesslet (Itasca project)
- Brain Cooperman (Geo spatial city analytics)
- David Cis (McKinsey's cities "good to great")
- Elana Berkowitz (Technology and Innovation)
- Henry Ritchie (Infrastructure, Public safety)
- Irene Sun (Education)
- Jaana Remes (Cities expert)
- Javier Orellana (City analytics)
- JJ Raynor (Employment creation)
- Jonathan Woetzel (Co-Chair Urban China Initiative)
- Kamal Fahmy Salama (Cities "good to great")
- Kathryn Maunders (Cities "good to great")

## McKinsey internal interviews

- Lenny Mendoca (Government regulation, Education)
- Mark Minukas (Public Sector Delivery)
- Martha Laboissere (Education and Employment)
- Mhoire Murphy (WH community solutions)
- Mike Kerlin (Water expert)
- Nadir Ait-Laoussine (Geo spatial city analytics)
- Paul Kihn (Education)
- Sabrina Harster (Cities "good to great")
- Shannon Bouton (Sustainability and resource productivity)
- Taras Gorishnyy (City archetypeing analytics)
- Tim Welsh (Urban economic development (public and private))
- Tyler Duvall (Infrastructure (transport))

# Documents and data (1/4)

## Living Cities

- Living Cities Principles and Core Beliefs
- Strategic Review Timeline
- *Next Generation of Community Development*
- Integration Initiative First Year of Implementation: Formative Feedback, Draft
- Preliminary Member Value Survey Findings
- Living Cities Blog

## McKinsey publications

- *An Economy that Works: Job Creation and America's Future*
- *Building Globally Competitive Cities: The Key to Latin American Growth*
- *Urban World: Mapping the Economic Power of Cities*
- *India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth*
- *Continued Urbanization and the Rise of Megacities -Strategic Impact on Sectors*
- *Electric Vehicles in Megacities*
- *Exploring Electric Vehicle Adoption in New York City*
- *City Congestion Management: Case Examples*
- *Preparing for China's Urban Billion*
- *Urban America: US Cities in the Global Economy*
- *Various internal McKinsey practice documents the Cities Special Initiative, Infrastructure practice, Philanthropy practice, Social Sector practice, Education Practice and the McKinsey Global Institute*

## Data sources

- Moody's Analytics
- US Census Bureau
- American Community Survey
- National Association of Realtors
- U.S. Bureau of Labor Statistics (BLS): Current Employment Statistics (CES)
- Quarterly Census of Employment and Wages (QCEW)
- U.S. Bureau of Economic Analysis
- Thumbtack.com
- Fannie Mae National Housing Survey
- National Center for Education Statistics
- Chicago Public Schools data
- US Department of Education
- Government of Sweden data
- UK Department of Education
- National Survey of Student Engagement
- National Household Travel Survey
- National Transit Database
- American Public Transit Association Survey
- New South Wales Government

# Documents and data (2/4)

## External documents, reports, books and publications

- Atlantic Cities
- American Association of Universities and Colleges
- American Association of School Administrators
- American Society of Civil Engineers
- Bill and Melinda Gates Foundation
- BBC
- *Best Performing Cities 2011*. Milken Institute
- *Benefits and Costs of Transportation Investments,* GAO
- Bloomberg News
- Center for Budget and Policy Priorities
- Center for Education Policy
- *Cities of Opportunity* 2011, Price Waterhouse Cooper
- *City Budget Shortfalls: 2010-2012,* American League of Cities
- *City Fiscal Conditions 2011,* National League of Cities
- *Conditions and Performance Report 2008 and 2010*, US Department of Transportation
- *Crisis in Local Government Pensions in the United States*
- Digest for Educational Statistics
- Dukakis Center for Urban and Regional Policy 2012
- *Emerging Trends in Real Estate*, Urban Land Institute
- Economic Policy Institute
- Economist Intelligence Unit

# Documents and data (3/4)

## External documents, reports, books and publications

- *Growth in Residential Segregation of Families by Income 1970– 2009*, Russell Sage Foundation
- *Hot Spots – Benchmarking City Competitiveness*, Economist Intelligence Unit
- *Is There a New Geography of American Poverty*? American Community Survey
- Job Services Australia
- Joint Center for Housing Studies at Harvard University
- Kaufman Foundation
- Learn Capital
- *Moving to Equity: Addressing Inequitable Effects of Transportation Policies on Minorities,* Civil Rights Project at Harvard University
- National Association of K-12 Online learning annual conference materials
- National Association of Realtors
- National Assessment of Educational Progress (NAEP)
- National Bureau of Economic Research
- National Center for Public Policy and Higher Education
- National Association of State Budget Officers
- National Council on Teacher Quality
- National Governors Association
- National Postsecondary Student Aid Study
- NST Financing Commission
- NST Policy Commission
- New Geography

# Documents and data (4/4)

## External documents, reports, books and publications

- New York State Council of School Superintendents
- Open Education Solutions
- Oxford Economics
- Pew Charitable Trust
- *State of Metropolitan America*, Brookings Institute
- *State of the States*
- Tax Policy Center
- *Urban Mobility Report,* Brookings Institute
- *Urban Mobility Report,* Texas Transportation Institute
- *US Metro Economies GDP and Employment Forecasts*, US Conference of Mayors
- *US Housing and Mortgage Trends*, Corelogic
- Wall Street Journal
- *Worst Case Housing Needs 2009,* HUD

# Contents

# Trends considered (1/5)



| | Trend | Impact on city and low income residents | What you must believe to prioritize the trend |
|---|---|---|---|
| Eco-nomic trends | 1 Changing employment landscape is creating structural unemployment and shifting centers of job creation | ▪ ***Impact on cities:*** High unemployment is plaguing many cities (e.g., rust belt), while reduced labor mobility make local solutions increasingly important<br>▪ ***Impact on poor:*** Glut in supply of low income workers and under supply of jobs - this leads to 6.9 million low-income youth becoming disassociated from the workforce. Growing income inequality means that this group has less wealth to act as safety net | ▪ The spill over effects of job creation is key to addressing other trends<br>▪ Understanding future labor market dynamics allows public, private and social sector actors to mitigate unemployment |
| Human service trends | 5 Despite increased investment in education, outcomes have not improved, resulting in a widening skills gap | ▪ ***Impact on cities:*** Education levels are vital for long-term city GDP growth given the shortage of high-skilled workers and excess of low skilled workers<br>▪ ***Impact on poor:*** Poor are primarily served by under-performing education systems and have lower educational achievement. Low-income community also faces severe social challenges that impair education | ▪ An educated and skilled city workforce is an essential ingredient for longer-term economic and social success as the US labor market shifts towards higher complexity service oriented jobs<br>▪ Increased education has significant positive spill over effects |
| | 9 There is a decrease in home ownership, rise of mortgage delinquency and tightening of credit | ▪ ***Impact on cities:*** Home ownership decreased from 69% to 65% over 2010-12, with 3.2 million foreclosed homes<br>▪ ***Impact on poor:*** High mortgagee delinquency and tightening of credit reduces ownership options, while the current rental stock is insufficient to meet demand. Decreased ownership patterns contribute to lack of wealth base for low-income residents | ▪ Post recession home ownership (or lack there of) is acutely affecting the poor and requires unique solutions (other than job creation)<br>▪ It is a unique space for social and private sector players to address |

Source: McKinsey Jobs report; White House Council on Community Solutions; McKinsey Education report, Brookings Institute; National League of Cities; HUD; TFA; Minneapolis Public Schools; McKinsey Global Institute analysis; National Center for Education Statistics; McKinsey education practice; expert interviews

# Trends considered (2/5)



| | Trend | Impact on city and low income residents | What you must believe to prioritize the trend |
|---|---|---|---|
| Physi-cal env. and public system trends | 10 Fiscal strain leads city governments to reduce services, scale back public infrastructure investment and triggers innovation and productivity in service delivery | ▪ ***Impact on cities:*** City systems are being put under increasing strain due to reduced public sector investment and reduced service offerings –this provides the impetus to capture innovation and productivity improvements<br>▪ ***Impact on poor:*** Low income residents are disproportionately affected by reduced city services | ▪ The changing nature of public sector budgets is creating<br>– Service gaps that are not being adequately filled<br>– Ramifications for the private and social sector organizations - requiring changes in strategies<br>▪ The public sector will need assistance in innovation and productivity improvement |
| | 12 Failing infrastructure is crippling economic growth and hurting low income communities | ▪ ***Impact on cities:*** Infrastructure capacity is insufficient, limiting economic growth and constraining social outcomes<br>▪ ***Impact on poor:*** Infrastructure policy is pushing low income folks to the suburbs – 'poverty is becoming a suburban experience' – and inefficient mobility exacerbates difficulties in accessing employment and services | ▪ Adequate infrastructure is an essential ingredient to provide long-term economic growth<br>▪ There is untapped innovation and management potential that US cities are not fully utilizing |

Source: Municipality budgets 2000-10; Pew Center on the States, Texas Transportation Institute, Foreign Affairs; McKinsey on Government; McKinsey infrastructure practice materials; McKinsey public sector practice materials; Department of Transport materials; expert interviews

# Trends considered (3/5)



| | Trend | Impact on city and low income residents | What you must believe to prioritize the trend |
|---|---|---|---|
| Eco-nomic trends | 2 Increased use of technology can increase productivity and access to citizen services | ▪ ***Impact on cities:*** Increases industry productivity and access to services and information<br>▪ ***Impact on poor:*** Provides better access to government services and job opportunities, however technology divide limits impact (only 30% of poor have access to broadband) | ▪ The advent of new technology is so broad in its potential applications it must be explored as stand alone trend – rather than as it relates to other trends, (e.g., as an accelerator of solutions) |
| | 3 Economic archetypes of industry are reshaping economic development policy | ▪ ***Impact on cities:*** Rise of government policy to incentivize sector-based archetypeing as a means to drive economic development<br>▪ ***Impact on poor:*** Moderate impact of poor – may foster greater economic development opportunities for low-income | ▪ That this government policy create new, unexplored, high impact opportunities for private and social sector |
| | 4 An increasing number of low-income residents do not have access to credit | ▪ ***Impact on cities:*** Particularly affects small businesses (who historically generate ~65% of new jobs)<br>▪ ***Impact on poor:*** Reduced access to credit and insurance creates cycles of poverty (7% of individuals in the US do not use financial services) | ▪ Constrained small business growth and individual access to credit is fundamentally driven by a credit supply problem (as opposed to being driven by insufficient demand) |
| Human service trends | 6 Cost of health care is rising, as the number of uninsured residents rises against an uncertain regulatory landscape | ▪ ***Impact on cities:*** Municipal budgets face ballooning health care costs placing acute pressure on other city services (e.g. NYC)<br>▪ ***Impact on poor:*** Out-of-pocket health care costs are the largest driver of the increase in number of people in poverty and is particularly acute for elderly (~16% of whom live at or below the poverty line). Low health outcomes impair education and work performance | ▪ Rising health care costs is best explored as a cost issue (as opposed to being addressed through job creation)<br>▪ The future regulatory landscape is not so uncertain to deter analysis |

Source: McKinsey Tech Practice and 2011 report on future of tech, Brookings Institute, Center for American Progress, US Census data, McKinsey report on the "Unbanked Poor"; McKinsey Health Care Practice materials; expert interviews

# Trends considered (4/5)



| | Trend | Impact on city and low income residents | What you must believe to prioritize the trend |
|---|---|---|---|
| Human service trends | 7 Crime is decreasing overall across cities, but is becoming increasingly concentrated in pockets | ▪ ***Impact on cities:*** Increase in safety and ease of doing business has generally increased, however crime is highly concentrated in specific neighbourhoods<br>▪ ***Impact on poor:*** Acute, negative effect on low-income. Crime is concentrated in low-income and low-opportunity areas. Increased policing of these areas creates community divide | ▪ The spill over effects of crime is key to addressing other trends (e.g., public sector fiscal strain)<br>▪ Crime trend is predictable and can be acted upon by municipal authorities and social sector organizations |
| | 8 Large pockets of cities have no access to fresh food (e.g., rise of food deserts) | ▪ ***Impact on cities:*** 75% of food deserts in the US (total = 2,000) are in urban areas<br>▪ ***Impact on poor:*** Food deserts are concentrated in low-income neighbourhoods, contributing to poor health outcomes and increased health care costs | ▪ Lack of healthy food options is the major driver contributing to low health outcomes<br>▪ There is a unique market dynamic that warrants further exploration |
| Physical env. and public system trends | 11 Increased amount and complexity of regulation hinders economic growth in cities | ▪ ***Impact on cities:*** Large negative effect on city GDP. Federal regulations alone cost the economy $1.75 trillion (12% of 2009 GDP) or $15 K per household<br>▪ ***Impact on poor:*** Unnecessary regulation border has disproportionate affect on small business and hampers employment | ▪ City-based regulations (rather than state or national regulations) act as obstacles to economic growth<br>▪ Cities have human capital that would be engaged in economic activity if regulations were lifted |
| | 13 Poor city delivery prevents efficient service outcomes | ▪ ***Impact on cities:*** Cities are facing the task of delivering more with less increasing the necessity of effective delivery. Building capabilities in city governments and coordinating actors across private, public, social sectors becomes increasingly important<br>▪ ***Impact on poor:*** High impact on poor where there are changes to systems on which they rely | ▪ It is important to evaluate city delivery independent from its role as a "solution" when mitigating other trends (e.g., improving infrastructure includes adopting better performance management) |
| | 14 Cities are developing approaches to mitigation (e.g., sustainable efforts) and adaptation (e.g., disaster resilience) | ▪ ***Impact on cities:*** New solutions to respond to climate change are becoming increasingly important as climate change affects intensify<br>▪ ***Impact on poor:*** Low income residents are most likely to reside in areas exposed to the negative effects of climate change (e.g. areas prone to natural disaster or pollution) | ▪ The effects of climate change are not being sufficiently addressed<br>▪ Mitigation and adaptation a priority for cities in the next 5-10 years<br>▪ Cities can successfully mitigate the effects of climate change |

Source: McKinsey 2011 report on future of tech; Brookings Institute; Center for American Progress; US Census; McKinsey Public Sector Practice materials; McKinsey Cities Practice; McKinsey Sustainability Practice materials; Tech Practice materials; expert interviews

# Trends considered (5/5)



| | Trend | Impact on city | Impact on poor | |
|---|---|---|---|---|
| Demo-graphic trends | 15 Income disparity is widening between the affluent and low-income residents in cities | ▪ Income inequality is widening and becoming "stickier" in American cities<br>▪ The effect on city GDP is subject to debate | ▪ Income inequality has a large impact on the poor as it solidifies class status by reducing employment and social opportunities | Discuss as they relate to the prioritized trends |
| | 16 Rise of majority-minority cities is occurring faster than city services are responding to the change | ▪ Non-whites and Hispanics accounted for 98 percent of population growth in metro areas from 2000 to 2010.<br>▪ 22 of the 100 now have "majority minority" populations<br>▪ Minority specific services and representation is not changing at the same pace (e.g. ESL programs) | ▪ Increasing percentage of the low income population are minorities<br>▪ Growing minority populations have implications for the education racial achievement gap and minority employment strategies<br>▪ The provision of city services must adapt | |
| | 17 Age tsunami is eroding the relative share of the working residents | ▪ Decreasing GDP and tax revenue as higher educated seniors exit the workforce,<br>▪ Soaring the pension/healthcare liabilities for municipal workers<br>▪ Public and private services may adapt for the aging (mostly white) population, potentially at the expense of the needs of younger (greater minority) working population | ▪ Will force public sector trade offs which will likely come at the expense to the poor<br>▪ Aging poor are increasing being pushed towards poverty (at nearly twice the national average) as increasing health costs impose a significant financial strain | |
| | 18 Detail the change in urban poor demographics post recession | ▪ Greater number of unemployed creating a larger drain on city services | ▪ Income inequality gap has continued to widen as poor become poorer<br>▪ Minorities continues to increase as a percentage of the low income population | |

Source: US Census; Brookings Institute; NY Times Census; McKinsey Report on Jobs; McKinsey North American Knowledge and Analytics Center; White House Council on Community Solutions; expert interviews