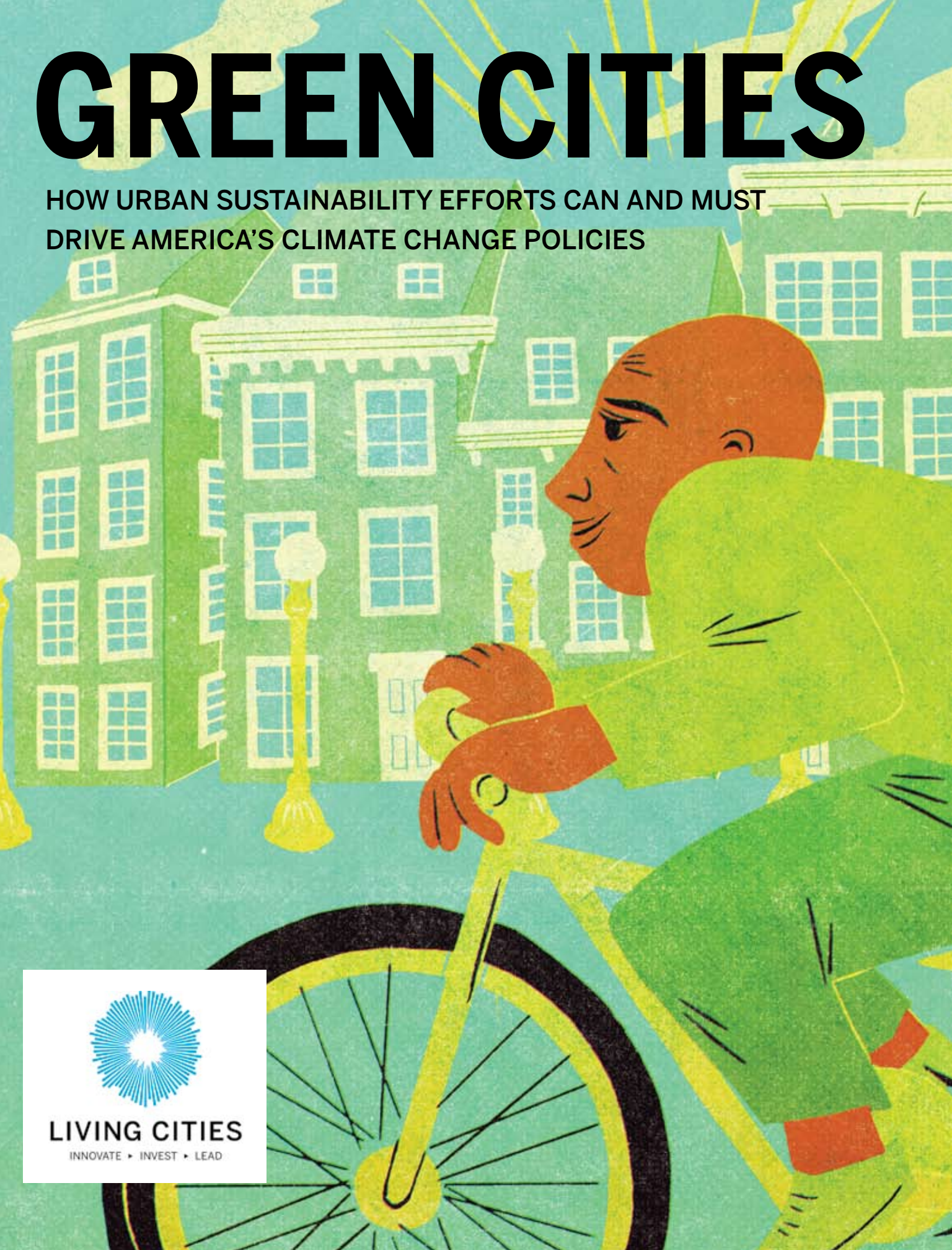
GREEN CITIES

HOW URBAN SUSTAINABILITY EFFORTS CAN AND MUST DRIVE AMERICA'S CLIMATE CHANGE POLICIES



LIVING CITIES

INNOVATE ▸ INVEST ▸ LEAD

About Living Cities

Founded in 1991, Living Cities is an innovative philanthropic collaborative of 21 of the world's largest foundations and financial institutions. Our members are not simply funders. They participate at the senior management level on the Living Cities Board of Directors and contribute the time of 80+ expert staff toward crafting and implementing our agenda, which is focused on improving the lives of low-income people and the urban areas in which they live.

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Letter From the CEO

Living Cities, a long-standing collaboration of 21 of the world's leading foundations and financial institutions, works to connect low-income people and under-invested urban communities to the economic mainstream. Our collective experiences convince us that the emerging green economy provides us with unprecedented opportunities — from lowering energy and transportation costs to creating jobs with meaningful career ladders. In order for this to happen, however, we must intentionally build a "gateway" that connects people and places to these opportunities.

America's cities are uniquely positioned to be those gateways. They are home both to large numbers of low-income people, and to the primary source of global warming — greenhouse gas emissions. In fact, urban areas account for approximately 75 percent of all energy use and greenhouse gas emissions in the world, with more than half of that coming from buildings.

This report, "Green Cities," is our effort to showcase and support the innovative ways in which cities are creating an equitable green economy. The report is based on conversations with the brightest thinkers in the field, and the findings from our survey of 40 of the country's largest cities. "Green Cities" takes a step back to see what cities have accomplished, while also identifying areas in which their efforts have fallen short.

Our findings are, on the one hand, encouraging: Most cities are starting to seize the challenge and opportunity of addressing climate change. On the other hand, our findings also reveal a deeply concerning trend: Few cities are prioritizing the needs of low-income people and communities as part of their green strategies and programs.

"Green Cities" focuses on the three areas in which we see significant headway being made and opportunity for further progress: building energy retrofits, green workforce development and transit-oriented development. Not only do local leaders identify these areas as priorities, but the recently passed stimulus bill brings extraordinary new resources to these activities.

This report is just one part of Living Cities' efforts to lay a foundation for an inclusive green economy. Later this year, we will be investing directly in several local efforts to develop comprehensive energy retrofit systems for buildings that will generate energy savings and job opportunities for low-income families. We will be hosting, together with the Ash Institute for Democratic Governance and Innovation at Harvard Kennedy School, meetings with state and local officials who are committed

"GREEN CITIES" IS OUR EFFORT TO SHOWCASE AND SUPPORT THE INNOVATIVE WAYS IN WHICH CITIES ARE CREATING AN EQUITABLE GREEN ECONOMY.

to harnessing federal stimulus dollars to this end. To address the critical issues of transportation, we are actively participating in important transit-oriented development collaboratives in the Twin Cities and the Bay Area. We are also supporting some of the first large-scale attempts to develop green jobs training programs for low-income and low-skilled populations by extending grants and planning support to six cities. Finally, we are working with Green for All to raise capital for a national social investment fund that will support green economy businesses and projects — companies creating green-collar jobs in energy efficiency, urban deconstruction, recycling and other services, as well as financing vehicles for small business expansion and emerging energy intermediaries.

Living Cities makes these investments on the shoulders of the extraordinary nonprofits, foundations and public and private sector leaders who blazed a green path when it was not popular. We are exploring new partnerships with the Obama administration and with mayors and governors to catalyze and accelerate a green-driven economic recovery through what Living Cities does best — creating innovative and integrative uses of public, private and philanthropic capital.

We and our members look forward to contributing to the creation of a green economy that works for all of us.

Ben Hecht
President & CEO
Living Cities

1 Introduction: Green and Cities

Over the past decade, climate change has moved from a scientific theory to a reality. Governments and communities around the globe are moving quickly to cut greenhouse gas emissions, in hopes of warding off the most devastating impacts of a dramatically altered climate.

In the United States, in the absence of strong federal action, local governments have been taking the lead on addressing climate change. Until now.

President Barack Obama has made reducing greenhouse gases a cornerstone of his plans. The new president is investing billions to green the U.S. economy. The administration is aiming for a triple win with these investments: quickly creating jobs, improving the environment and including traditionally isolated and low-income residents in the new green economy.

In an effort to inform and shape the coming wave of investment in sustainability, Living Cities conducted a thorough survey of programs and policies in 40 of the nation's largest cities, spoke to dozens of experts in the field and studied a series of initiatives at the local level. It's one of the first-ever assessments of exactly how cities are addressing climate change — and what they need in order to take these efforts to the next level. (See the Survey Results at the end of the report, for complete findings.)

What we found is that cities did not wait for action from the federal government or even their state governments to begin to turn themselves into green "laboratories," testing ways to lower greenhouse gas emissions, and to build healthier, cleaner, more sustainable environments. For example the Living Cities survey found that fully four out of five cities report that sustainability is among their top five priorities as articulated by the mayor. Over 75 percent of cities have, or will soon have, detailed plans on how they will reduce greenhouse gasses; nearly all are calling for an emissions cut of between 10 and 20 percent in the next five to 10 years.

Cities, it seems, have seen the future, and they are embracing it. In the Living Cities survey, four in five cities reported that sustainability is among their top five priorities. More than half of cities are either currently creating

IT IS NO LONGER A QUESTION OF "IF" THE NATION WILL BEGIN THE CHALLENGING TRANSITION TO A GREENER ECONOMY BUT "HOW" WE WILL GET THERE.

a sustainability plan or have finished one within the past year, and about one-quarter of cities finished their plans even earlier than that.

The most concrete sign of this commitment from cities is in the mass compact signed by the majority of mayors — the U.S. Conference of Mayors Climate Protection Agreement. As of April, 935 mayors representing more than 83.5 million citizens have pledged to seek 7-percent reductions in greenhouse gas emissions (from 1990 levels) by 2012.

It's not surprising that cities are taking the lead. They see the market potential. In addition, it is cities, after all, which set policy for hundreds of millions of people on everything from trash to traffic flow. They are major consumers of equipment, technology and fuel, and they can regulate the use of land down to the thickness of insulation in the attic of a new home. The choices they make have a major impact on energy use and the environment.

Urban officials surveyed by Living Cities report that they have made significant gains in mandating more efficient city buildings, promoting recycling and conserving water.

But there are major gaps in city efforts. Cities have generally been slower to tackle the areas with the greatest potential impact: expanding mass transit, promoting green jobs and improving the energy efficiency of existing building stock. (This report addresses all these areas in detail.)

These types of ambitious projects require a significant investment of capital, as well as comprehensive economic and urban planning strategies that most cities have yet to adopt. Additionally, they will require tremendous coordination with federal and state governments. In the Living Cities survey, more than two-thirds of cities reported that their partners in state and federal government had little or no impact on their work. This needs to change as new dollars flow to localities from the stimulus bill and Congress considers a federal cap-and-trade program.

Even more troubling, our research found that relatively few cities' programs are incorporating working families and poor people into their sustainability plans. For example, new transit programs like new rail lines or bike paths tend to move residents of higher-income neighborhoods to the urban core, rather than offering service to neglected neighborhoods. And few city officials we surveyed on green jobs talked about ensuring that links are made between new green-collar job opportunities and the under- and unemployed.

A lack of attention to inequality is particularly unfortunate, as the "greening" of cities may represent a rare opportunity to address the troubling poverty and unemployment that continue to plague neighborhoods in nearly all American cities. Also, it is

precisely in low-income areas that sustainability plans can have the most dramatic impacts: The housing stock is the least energy efficient, and the job seekers have the skills and motivation to plug into the expected growth in construction and retrofit jobs. Finally, focusing on issues of equity in the coming green wave present an opportunity to use green as a lever to reform the long dysfunctional and uncoordinated workforce, housing and transportation systems that serve not just the poor but all city residents.

Now is the time to address these core gaps. We need to both scale up city green efforts and ensure they are connected to all residents, including the poorest. It is no longer a question of "if" the nation will begin the challenging transition to a greener economy but "how" we will get there. As this report reveals, the answer to that question lies in large part in America's cities. They are on the vanguard of developing climate change solutions. They will undoubtedly remain at the center of any serious bid to cut greenhouse gas emissions, because of their sheer scale, centrality to the U.S. economy and key role as the center of American expertise and innovation.

In the subsequent three chapters, we will examine cities in terms of buildings, jobs and transportation. We consider cities' achievements, while also scrutinizing the troubling gaps that plague those efforts. In the fifth and final chapter, we offer conclusions and recommendations: the next steps for making the most effective and productive investments in helping greening cities — and the nation. It is no small concern, as the Obama administration takes its first, key steps.

read this.

RECOMMENDED READING

- CALIFORNIA GREEN INNOVATION INDEX
  2008 & 2009

  Doug Henton

  A sharp, engaging analysis of key economic and environmental indicators and the role that innovation plays in reducing greenhouse gas emissions.

- HOW GREEN IS YOUR CITY? THE SUSTAINLANE US CITY RANKINGS
  2008

  Warren Karlenzig

  The first systemic report card ranking the sustainability of the 50 largest US cities. It provides analysis of each major city's management policies, strengths and challenges, as well as a survey of where clean technologies might break new ground to expand job-markets and tax-bases across the country.

- THE ECONOMICS OF CLIMATE CHANGE IMPACTS AND POLICY BENEFITS AT CITY SCALE: A CONCEPTUAL FRAMEWORK - ENVIRONMENT WORKING PAPER NO. 4
  2008

  Organization for Economic Cooperation and Development

  A conceptual framework for understanding and addressing the vulnerability of cities to climate change. It also assesses the potential economic impact of rising temperatures.

- DESIGNING A CLEAN ENERGY FUTURE: A RESOURCE MANUAL
  2003

  The Minnesota Project, University of Minnesota's Regional Sustainable Development Partnerships, Minnesota Department of Commerce

  A practical, comprehensive resource on community-based clean energy solutions with reference materials and detailed case studies of successful projects.

2 Green Buildings

Cities have made green building a priority among their early sustainability efforts. But cities need help with the next big step: retrofitting current structures.

Cities are are not just where the people are — they're where the buildings are, a critical fact for battling climate change. Roughly half of all greenhouse gases emitted in the U.S. are produced in order to build, heat, cool and power the structures in which we live, work, shop and play, according to the U.S. Energy Information Administration. It is no surprise, therefore, that many cities have devoted considerable resources to trying to make buildings more efficient.

Green building techniques have progressed by leaps and bounds in the last 20 years. Because of the growth of the green building industry, the rising cost of energy and the fact that cities have control over both their own municipal buildings and local building codes, green building tends to be the first step for city officials looking to "green" their cities.

Many cities have made considerable progress with green buildings — and put tough new codes into place, particularly when it comes to new city structures and commercial projects. It's a significant accomplishment, but Living Cities' research suggests its reach is inherently limited. The true Holy Grail for cities seeking to make a serious dent in building-related emissions is mass retrofits: a systematic effort to upgrade current structures, which make up the vast majority of buildings.

Those efforts must target not only commercial and institutional buildings but also the residential sector, particularly low-income renters and homeowners — helping them insulate, replace appliances and make their homes safer and more comfortable. Such efforts can build on the experience of federal agencies and their local partners, which for decades have run modest programs helping the poor weatherize homes.

THE TRUE HOLY GRAIL FOR CITIES SEEKING TO MAKE A SERIOUS DENT IN BUILDING-RELATED EMISSIONS IS MASS RETROFITS: A SYSTEMATIC EFFORT TO UPGRADE CURRENT STRUCTURES.

Building Codes Go Green

Cities are working to make new buildings, especially those built with city money, more efficient.

The most common green buildings strategy for cities, by far, is to mandate that new city buildings be built to efficient standards. Most cities are basing their codes on the Leadership in Energy and Environmental Design (LEED) standards from the U.S. Green Building Council. About two-thirds surveyed by Living Cities have chosen to mandate LEED silver standards for new city-owned or city-funded construction.

Although such a step is easy to take and sends a strong message that a city is investing in "green," the net benefit of such strategies in terms of emissions reductions is relatively low, given that most cities don't add that many new buildings.

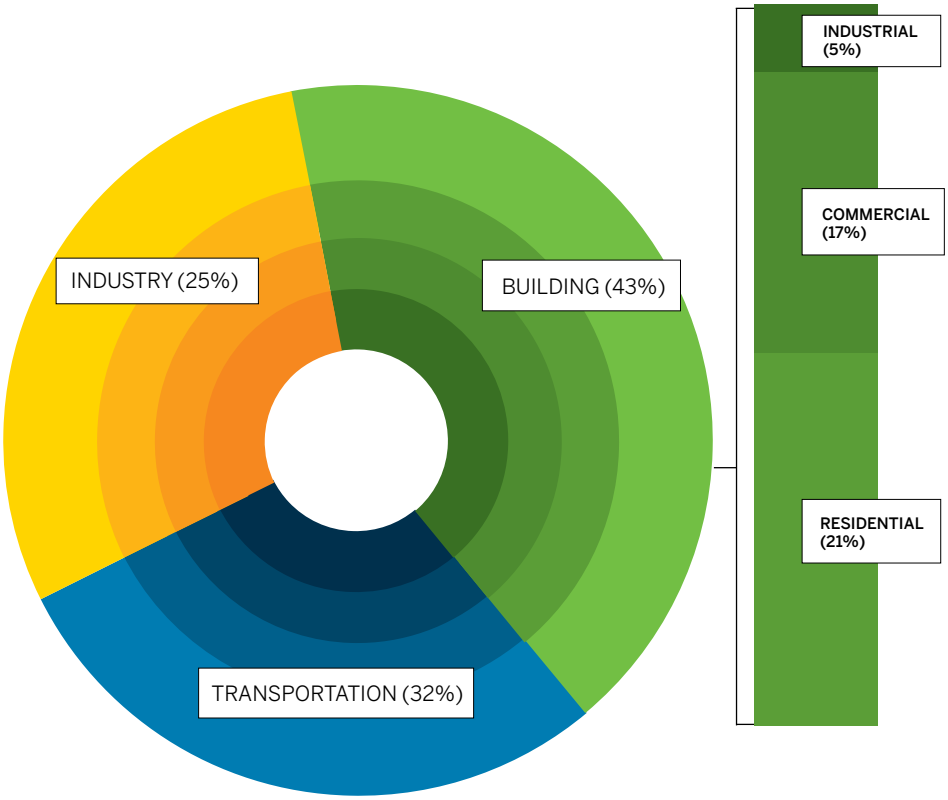
Take Memphis — an extreme but not singular example. The city isn't adding much population, with only about 4,000 new residents between 1980 and 2000.[iii] Officials there said they probably construct a new city building "every five or 10 years." Overall, most cities reported to Living Cities they build relatively few structures each year.

About one in four cities in the Living Cities survey said they have green building mandates that go beyond city buildings and apply to private construction: usually commercial and, in a few cases, residential. Most cities begin regulating private construction by revising codes to mandate green building for larger new buildings, typically 10,000 square feet in size or larger.

There are a few cities mandating green standards for all construction, whether city-funded or not. In San Francisco, new green standards for all new buildings, whether residential, private or commercial, will be phased in over the next five years. Dallas and Washington, D.C., have also just passed new codes. Theirs require all new buildings to be built to modestly efficient standards by 2011 and 2012, respectively.

Such broad and ambitious codes are the exception rather than the rule. But despite the lack of widespread mandates, green building is catching on, especially among large commercial projects. Houston officials report, for example, that 80 percent of their new commercial office space downtown meets LEED standards.

U.S. CO2 EMISSIONS BY SECTOR



Source: Pew Center on Global Climate Change (2005). Towards a Climate-Friendly Built Environment.

Greening Existing Buildings: Cities' Biggest Challenge

The biggest and quickest cut that cities can make in carbon is from "greening" current structures. Mass retrofits also create new jobs.

Requiring that new buildings be green is a good first step for cities, but by far the most meaningful dent in greenhouse gas emissions could come from retrofitting existing buildings. Over 90 percent of the built environment in the U.S. is over five years old.[iv]

Research shows that retrofitting an existing building is far better for the environment than building a new one — even if it's built to green standards. Construction itself is responsible for a big chunk of buildings' carbon emissions.[v] "The bottom line is that the greenest building is one that already exists," said Richard Moe, president of the National Trust for Historic Preservation, in a 2008 speech.

Cities across the country know this. They're beginning to put innovative programs into place to encourage and pay for retrofits.

But the reach of most such programs is so far sharply limited. George S. Hawkins, director of the Department of the Environment in Washington, D.C., says that existing, aging buildings are his city's biggest challenge, even with a plan in place to invest approximately $25 million in retrofits.

"It is not anywhere near enough," he says, "given the scale of development that is already here, which is not energy efficient, and which needs to be transformed."

Like D.C., Los Angeles has a multimillion-dollar program to retrofit existing city buildings. The city's utility is lending the city the money to make its buildings more efficient. The city will then pay that money back with the energy savings it realizes over time.

But the reach of such a program is modest for now. L.A. is starting with 20 buildings — out of more than 1,000 existing city-owned structures.

In San Francisco, retrofits are also next on the agenda for green building advocates. San Francisco and other cities have not yet effectively tackled them because retrofitting old buildings is complicated, says Laura Tam, sustainable development policy director for the San Francisco Planning and Urban Research Association (SPUR). "It's just easier to deal with new buildings — they aren't occupied or even designed yet. You don't have to move or inconvenience tenants," she explains. "Also, it is usually more expensive to add green features to an existing building than to build it that way in the first place."

Building owners who do make their buildings more energy efficient enjoy a significant pay-off: lower energy bills. That not only makes the building less expensive to operate but also helps to attract tenants. And as cities, states and eventually the federal government begin to

read this.

RECOMMENDED READING

- A HANDBOOK ON LOW-ENERGY BUILDINGS AND DISTRICT-ENERGY SYSTEMS: FUNDAMENTALS, TECHNIQUES AND EXAMPLES
  2006

  Danny Harvey

  A comprehensive, objective and critical sourcebook on low-energy buildings and exemplary building techniques from North America, Europe and Asia.

- THE DOLLARS AND SENSE OF GREEN RETROFITS
  2008

  A joint study by Deloitte and Charles Lockwood

  A smart working paper that makes a strong case, based on data, for green retrofits.

- ENABLING INVESTMENTS IN ENERGY EFFICIENCY: A STUDY OF PROGRAMS THAT ELIMINATE FIRST-COST BARRIERS FOR THE RESIDENTIAL SECTOR
  2008

  Merrian Fuller

  A sharp, accessible study of energy efficiency financing programs in the U.S. and Canada with recommendations for overcoming cost barriers.

- BUILDINGS AND CLIMATE CHANGE: STATUS, CHALLENGES AND OPPORTUNITIES
  2007

  United Nations Environment Programme

  This report, from the Sustainable Buildings and Construction Initiative of UNEP, finds that significant cuts in greenhouse gas emissions can be made using existing technologies and building materials.

"...During a recession, one thing you look for is certainty. Building retrofits provide that certainty."

- Robert Pollin, an economist and the co-director of the Political Economy Research Institute at the University of Massachusetts, Amherst

make carbon emissions costly, building owners may be required to reduce emissions. Four of the five most cost-effective ways to cut emissions — improving insulation, lighting, air-conditioning and water heating — are building retrofit measures, according to the consultant McKinsey & Company.

In an effort to help spur the green retrofit market, the U.S. Green Building Council re-launched a special LEED program for existing buildings in January 2008. Since then, more than 1,000 new projects have been submitted, more than twice the rate of the previous year.

Green retrofitting not only can help cities achieve real and meaningful reductions in greenhouse gas emissions, it will also create new, "green" jobs for blue-collar workers. It's a sector that elected officials are focusing on helping, given the low- and mid-skilled job losses growing out of the current housing slowdown and financial crisis. Investments in retrofits can produce immediate economic impact, a key consideration for policymakers from President Obama on down; $1 million spent on retrofits creates between 8 and 11 jobs and generates about $300,000 in taxes, according to estimates.[vi]

"Building retrofits is the easiest way to get big energy gains, quickly, and to create a lot of jobs," said Robert Pollin, an economist and the co-director of the Political Economy Research Institute at the University of Massachusetts, Amherst. "And during a recession, one thing you look for is certainty. Building retrofits provide that certainty."

USE OF RESOURCES IN GREEN BUILDINGS

In the United States alone, buildings account for:

POTABLE WATER CONSUMPTION**

13.6%

The Financing Puzzle For Retrofits

Cities and their partners are working to figure out how to pay for retrofits, in hopes of launching wide-scale programs that can lead to big cuts in emissions.

As with many "green" initiatives, one of the major obstacles to energy-efficient upgrades to existing buildings is how to pay for them.

One viable model for paying for retrofits has emerged for institutional and corporate customers: performance contracts. Energy Service Companies (ESCOs) retrofit buildings at a discounted up-front cost and then share in the resulting savings in energy costs over time. ESCOs are typically manufacturers of heating and cooling equipment, such as Johnson Controls. They do the bulk of their business in large buildings, which buy their products.

While ESCOs have made a market of large-scale retrofits, there is no parallel model for retrofitting smaller properties — the modest office buildings, commercial properties and homes that make up the lion's share of the built environment and the associated energy consumption and greenhouse gas emissions.

Progress on the residential side of the energy efficiency market has been slow. A mass retrofit of single-family homes could make a huge dent in greenhouse gas emissions: These homes are responsible for 38 percent of all building energy use and 73 percent of all residential use.[vii]

Yet not many homeowners have chosen to green their homes. Cost estimates for retrofits range from $3,000 to $40,000, an investment that can take years to recoup. Savings from energy improvements vary widely and are often educated guesses, at best. Getting retrofits done usually requires a substantial investment in time and energy for the homeowner, with high transaction costs. Utility bills have often not been high enough to motivate the residential market. Improper usage — e.g., leaving lights on or failing to use a thermostat properly — can eliminate hoped-for savings.

Innovative Approaches

New energy efficiency financing models are cropping up across the nation.

New financing techniques can overcome these hurdles, leading many more building and homeowners to embrace retrofits. "What we need right now is a way to turn those up-front big capital costs into long-term modest repayments," says Cisco DeVries, managing director of Renewable Funding, a solar financing company, "so that people can pay for solar energy and efficiency in ways that are much more like a utility bill and much less like a car or house note."

It appears that federal officials are poised to create policies to incorporate energy efficiency into their housing programs. The new Housing and Urban Development Secretary Shaun Donovan said during a February speech that his agency planned to "have a dramatic effect on the sustainability of the way that we build our housing."

Traditional retrofit financing programs provide three- to seven-year-term loans. Payments on such loans are high enough to limit the number of homeowners that can afford them. A variety of subsidies and incentives to make these loans more attractive to lower-income households have met with only limited success.

Innovative programs that hope to broaden the appeal of retrofits for homeowners are cropping up across the country.

On-bill financing, using either utility or property tax bills, can make retrofits more affordable by lengthening repayment periods, while still satisfying lenders that their loans are reasonably secure. Collecting payments through a utility company's billing system is attractive because homeowners typically make paying utility bills a priority and because this

"What's wrapped into this redevelopment is every issue you can imagine —not only efficiency but education, schools, community services and green."

- Rich Gross, vice president, California Initiatives at Enterprise

approach presents the benefits and costs of retrofits on the same page — literally. And, not inconsequentially, utility payments are viewed as a particularly secure income stream in credit markets. Many utilities, however, have not embraced this approach. They argue it would lead to higher bills and a rise in shut-offs for nonpayment, while raising legal issues when properties change hands.

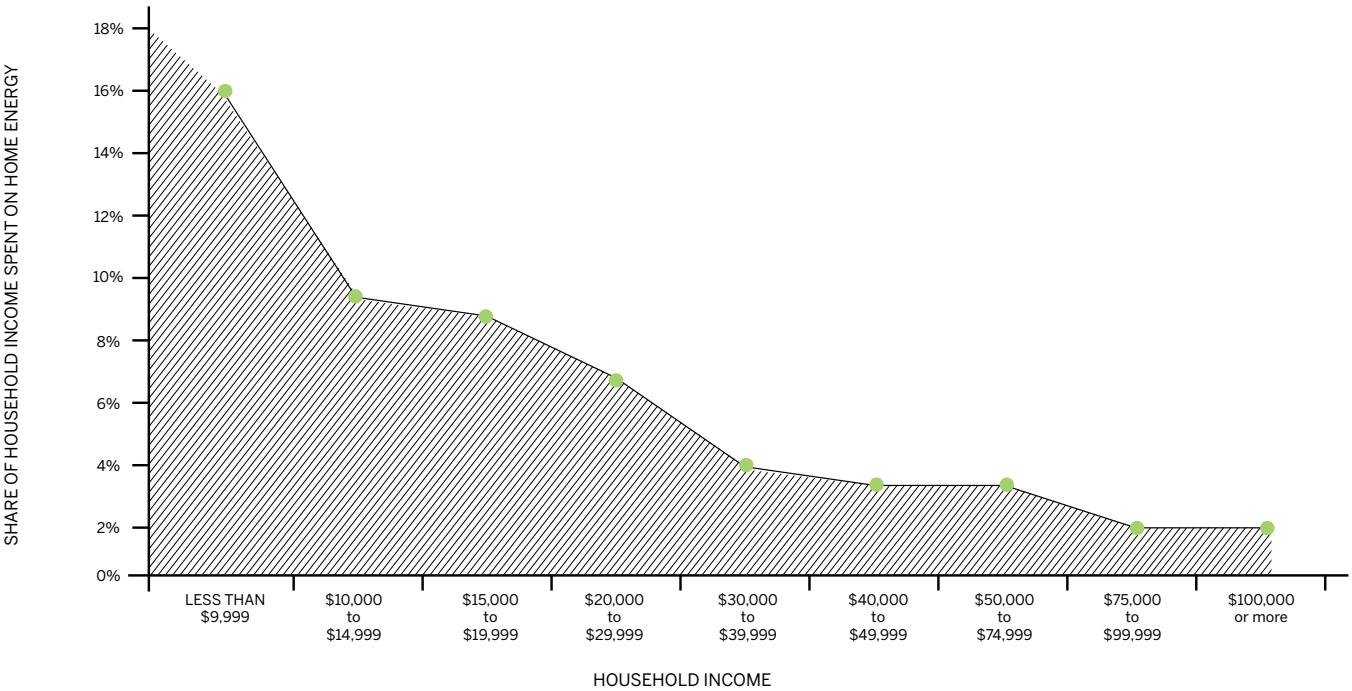
Another approach relies on the creation of special taxation districts. For example, the City of Berkeley is selling bonds to pay for home energy improvements through its Clean Energy District Financing Program. The city will pay off the bonds over 20 years by levying a special tax on the properties whose owners elect to participate. This approach holds promise: The 20-year term can make deeper investments feasible, and the additional clean-energy-related property taxes are deductible for federal and state income tax purposes, offering the homeowner a significant incentive. Like utility bill payments, property tax payments are received favorably in credit markets.

California has passed a law to encourage other cities to follow Berkeley's lead. Other states — Colorado and Texas — are pursuing this model as well. In addition, Minnesota and Pennsylvania have loan programs designed to spread the costs of projects over 20 years — a key time frame, because it keeps payments in line with the savings homeowners see on their utility bills.

Finally, markets that will pay for efficiency savings are emerging. They offer the potential for a massive increase in scale for efficiency programs. Observers expect that these markets will grow out of state and regional efforts to mandate greenhouse gas cuts such as AB 32 in California or the Regional Greenhouse Gas Initiative, a consortium of 10 Northeastern states, which has just conducted the first cap-and-trade carbon auction in the U.S.

ENERGY COSTS & HOUSEHOLD INCOME

The lowest income groups pay the highest proportions of the their income on home energy.



Source: The Brookings Institution

Green Buildings For All

Cities need to make sure that low-income families benefit from the greening of homes and apartments.

As is the case with all "green" initiatives, cities will need to work hard to ensure that low-income residents have access to energy efficiency upgrades. If it's hard for middle-class residents to navigate the complexities of loans, utility bills and tax credits that come along with retrofitting, it can be virtually impossible for low-income homeowners and tenants

Yet low-income families can benefit more than anyone else from greener dwellings. Families that earn less than $10,000 a year pay as much as 16 percent of their incomes on home energy bills, compared to just 2 to 3 percent for middle- and upper-income families, according to the Brookings Institution.

The first federal energy efficiency programs, which grew out of the OPEC energy crisis of the 1970s, were aimed at helping the poor. These include the Department of Health and Human Services' Low Income Home Energy Assistance Program that helps low-income families pay their utility bills. The Department of Energy's Weatherization Program provides retrofit services at no cost to lower-income households. New investments in this work in cities must build on the track record of these enduring programs.

Several cities also have their own programs in place to help low-income residents complete energy-efficient retrofits. Houston has partnered with its electric utility to offer weatherization in low-income communities. For about $900 per home, contractors blow 9 inches of insulation into attics, caulk holes in windows and doors and do other simple fixes. Officials say the program lowers residents' utility bills by 12 to 20 percent. The city has done this work in 3,500 homes with hopes of doubling that number by 2010.

To help retrofit existing affordable housing units, Chicago recently instituted the Chicago Energy Efficiency Building Retrofit Program, a public-private partnership to provide financing and technical assistance to owners of affordable multiunit rental properties. The program will provide loans to building owners for energy and water efficiency measures that will be repaid from the operating savings those improvements make possible. Currently in its pilot phase, the program aims to retrofit 100 to 200 buildings with 4,500 to 5,700 units of affordable housing and provide a model that can be rolled out on a larger scale in Chicago and replicated in other cities.

However, cities have often stumbled when it comes to outreach for such programs, both in terms of letting low-income residents and building owners know they exist and in adequately explaining the financial benefits of such programs.

On the affordable housing front, some cities are partnering with nonprofits such as Enterprise and LISC to green publicly funded developments. Perhaps more importantly, cities are beginning to understand that sustainability means more than just a "green" home. Seattle's Hope Seattle project was one of the first to adopt a goal of creating not just a green housing project but a sustainable community. The project now serves as the model for the Hope SF project, which will tackle the greening of eight public housing projects in San Francisco. "What's wrapped into this redevelopment is every issue you can imagine —education, schools, community services and green, not only as an efficiency issue but as a health issue," explains Rich Gross, vice president, California Initiatives at Enterprise.

CHAPTER TWO HIGHLIGHTS

Most large cities are mandating that new city buildings be built to green standards. Some cities are starting to go further, requiring the same for private construction.

But the focus on new buildings is limited. Mass retrofits of existing structures are the key to sharp greenhouse gas reductions.

Many cities want to spur mass retrofits, but paying for them is an enormous challenge. Officials are examining the innovative financing schemes that have sprung up around the country.

Cities will need to ensure that programs to make homes and apartments more efficient reach low-income neighborhoods.

3 Cities and Green Jobs

President Obama has made investing in green jobs a priority. Cities are poised to help implement the policy, but the field is still more a concept than a reality.

The idea of a vibrant "green jobs" sector that will help breathe life into the economy has garnered significant attention in recent years from the media, politicians and nonprofit groups alike. Governors in California and Massachusetts have signed bills funding the creation of a green workforce, while think-tanks and researchers are projecting millions of new green jobs.

And now the new president is giving green jobs a huge boost. His $787 billion stimulus package, signed into law in February, includes roughly $90 billion in green spending on energy and infrastructure, for boosting energy efficiency in federal buildings, increasing investment in mass transit and creating a smarter energy grid. That spending is projected to create around 1 million jobs, according to White House estimates.

The hope is that that "green jobs" will help move America out of a recession and restore its place as a leader in the global economy. But, even as Obama prepares to advance this new economy forward, the green-collar job movement is in need of programs and leadership that can turn its promise into reality.

The shift to a green economy will test cities, as most economic and workforce development systems are outmoded, fragmented and unprepared to adequately respond to the new opportunities. The green economy can become the perfect impetus and vehicle for re-engineering these critical systems and for ensuring that underemployed low-income residents become a strong focus of new workforce efforts.

Which Green Jobs?

All kinds, but the first wave is most likely to come from energy efficiency.

Before turning to examine cities' current efforts, it's important to stop and define the ambiguous term "green jobs." The term encompasses all jobs that help move an economy towards sustainability. It includes workers who create renewable energy, make alternative fuels, improve mass transit and conserve energy in buildings and homes.

Efforts to quantify green jobs have generated as many as 22 categories.[viii] They include the obvious, such as workers who install solar panels, weatherize homes and build wind turbines and electric cars. The analysis also, however, includes other less self-evident jobs, like bicycle shop workers, bus drivers and gas station attendants who pump biofuels. Or even landscapers and janitors who maintain yards and clean buildings using environmentally-friendly materials and methods.

Some observers have argued against the very notion of a green jobs sector, noting that it's a malleable concept that encompasses such vastly different jobs that it has little practical utility. Officials do agree on one thing, regardless: The number of green jobs will grow, particularly in renewable energies, alternative fuels and energy efficiency. A new report prepared for the U.S. Conference of Mayors projects the sector will reach 4.2 million jobs in the next 30 years. Green jobs could provide as much as 10 percent of all new job growth over the next 30 years, according to the report.[ix]

Government action is helping drive growth in renewable energies. More than half of states have by now adopted a renewable energy portfolio standard that requires them to produce from 10 to 25 percent of their energy from sources like solar panels, windmills and geothermal pumps by 2020. There will be jobs building, installing and maintaining these new energy sources.

Jobs will also be created, from farms to factories to gas stations, as the next generation of biofuels comes on-line. Lastly, and mostly important to cities, is the massive potential for jobs in improving energy efficiency in buildings. There are up to 250 billion square feet of buildings in the United States — most in cities — that need to be retrofitted, according to an estimate from the real estate firm the Schuster Group.

Injecting billions into mass building retrofits in U.S. cities would pay immediate dividends for workers. Many of those jobs are in working-class trades that pay reasonably high wages: construction workers, electricians, utility line workers. These are also the job categories that the current recession, with its origin and deepest impacts in the housing arena, has hit the hardest. With support and training, construction firms can move from building homes to rehabbing them.

A report from the Center for American Progress suggests that investing $40 billion in building retrofits would create about 800,000 jobs.[x] That happens to be the same number of jobs that have been lost in the construction sector over the past year, the report notes.

Energy efficiency investments can also get off the ground the quickest, a high priority with the current recession leading to hundreds of thousands of new job losses each month. With the Obama administration about to pump billions into retrofitting public buildings — schools, firehouses, offices — this work will begin in a few months.

How Cities Have Progressed

Cities want to attract green jobs — and they have a few programs in place. But, so far, the sector is much more concept than reality.

City officials are well aware of the rosy predictions for the green jobs sector. Nearly all cities surveyed by Living Cities report they would like to attract green-collar jobs and industries. But most are just now starting to figure out how to do that, by surveying area companies, reaching out to colleges and bringing together interested parties.

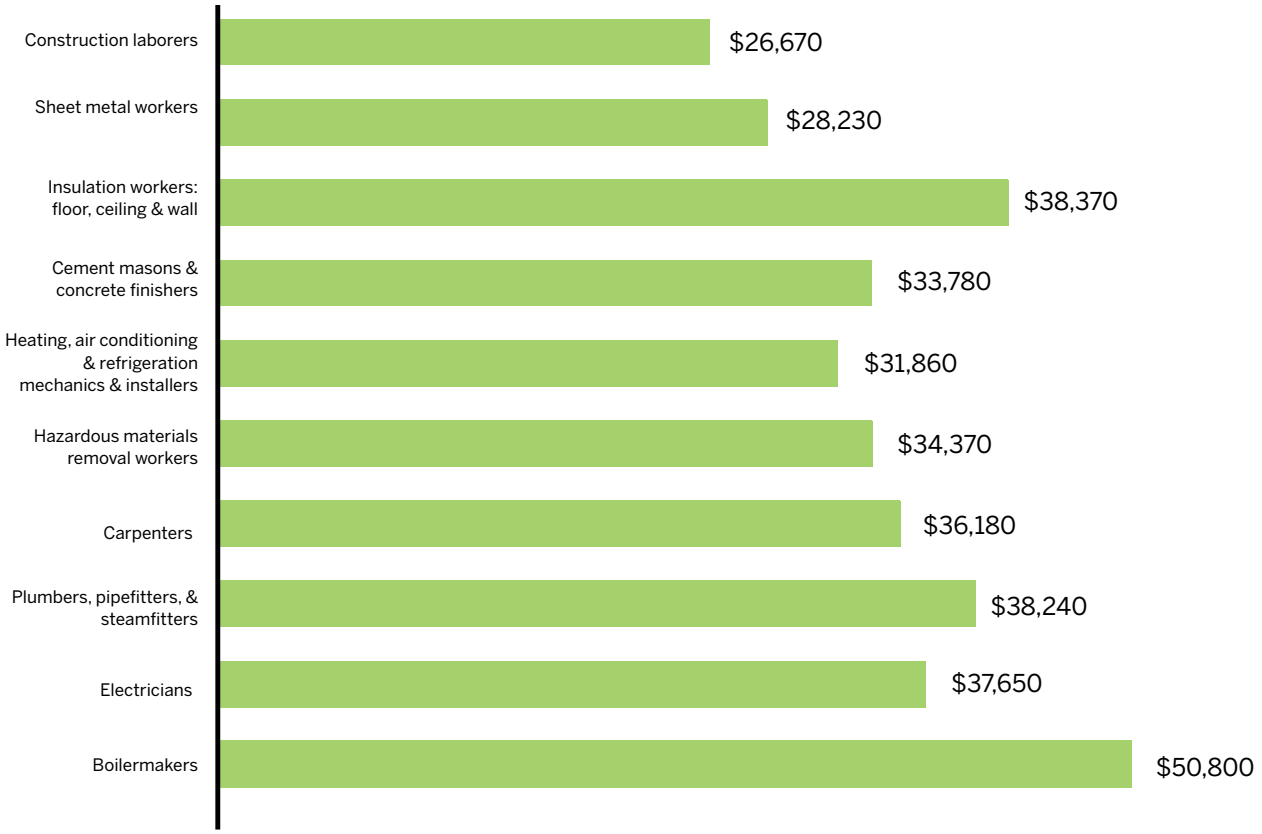
Those collaborative efforts have led to progress in at least some cities. Nationally, about one in three of the cities that Living Cities surveyed have begun to partner with area colleges and create training programs. About one in six report they actually have programs that place trainees in jobs, according to our survey.

Overall, a few select cities are developing promising models, but the numbers of new jobs and of people receiving actual training are still quite low. This is not a huge surprise, as the number of green businesses and jobs remains modest.

Probably the greatest commitment to green jobs is occurring in Chicago where the city has begun directly funding and running its own program. The $2.5 million Greencorps Chicago gives participants municipal jobs. The program has trained 265 participants since 1994 (about 40 per year) in landscaping and tree pruning and,

JOBS AT-A-GLANCE: ENERGY EFFICIENCY

This chart depicts median national wages for selected middle-skill occupations in the residential building construction industry.



Source: Center on Wisconsin Strategy, The Workforce Alliance, and The Apollo Alliance (2008). Greener Pathways: Jobs and Workforce Development in the Clean energy Economy.

since 2005, in computer recycling and disposal of household chemicals. Roughly 80 percent of program participants (the majority of whom are ex-offenders) have found jobs with the city, nonprofit groups or private employers as landscapers, tree pruners, arborists and truck drivers.

The Bay Area in Northern California is another city cited as a national model. But a Living Cities' assessment shows that while their practices may be innovative, these programs have only led to a fairly small number of jobs. Their efforts are nonetheless worth examining.

The city of San Francisco has been proactive. Its citywide Go Solar program provides rebates of up to $6,000 for individuals and up to $10,000 for businesses that install solar systems. According to Mayor Gavin Newsom, the rebate program has resulted in 16 companies hiring new workers to install solar panels in the city.

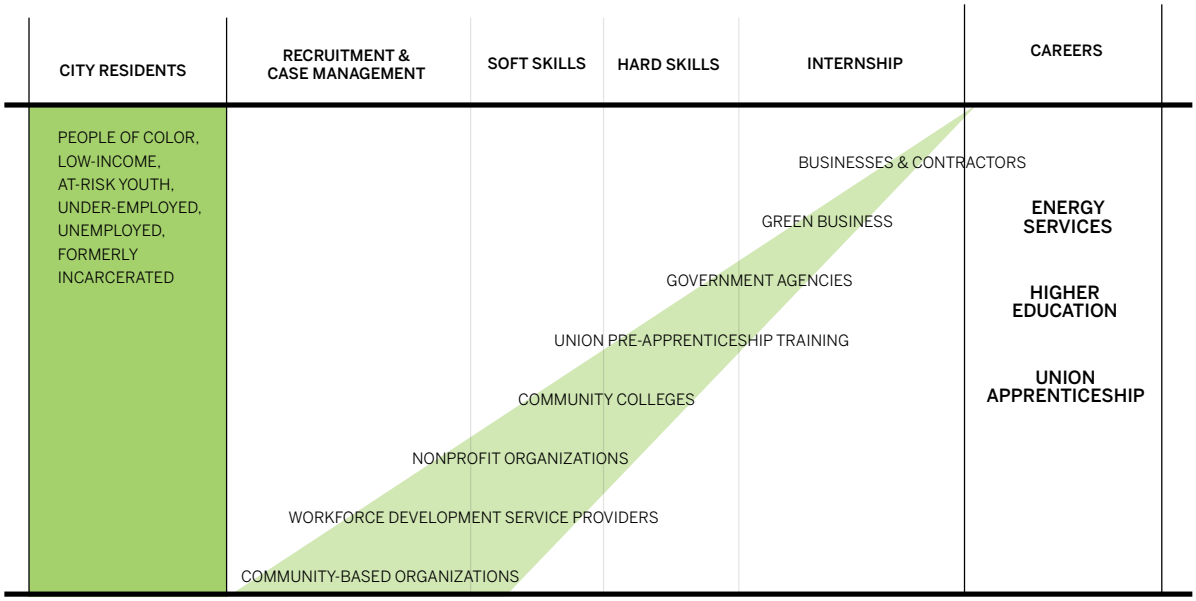
San Francisco has also funded a program at a local community college to train low-income residents in various skills related to the biofuels industry. Most of the graduates from the new program will get jobs at the city's proposed biodiesel plant. The city also has introduced green building lessons to the curriculum at City Build, a construction job training program run by the San Francisco County Transportation Authority.

Across the Bay, in Oakland, is another promising effort led by the nonprofit Ella Baker Center. It is just one of a growing number of community groups taking the lead to seek green-collar job training for low-income residents. The Ella Baker Center is providing vocational training, internships and job placements in renewable energy, energy efficiency and green construction projects.

The program brings together a local community college (Laney College), a nationally recognized job training program (Cypress Mandela) and a placement agency (Growth Sector). The three-phase program can take 40 students in its first year and is funded by a $250,000 grant from the City of Oakland. Graduates will ultimately be guided into apprenticeships and on-the-job training programs at local companies and nonprofits. Participants will also be assigned case workers who will help them get and maintain jobs once they have completed training.

Many policymakers and advocates are watching the Ella Baker Center with great interest. The group's cofounder and now White House green jobs advisor, Van Jones, has garnered nationwide

CREATING GREEN CAREER PATHWAYS OUT OF POVERTY



Source: Apollo Alliance, Green for All, Center for American Progress and Center on Wisconsin Strategy (2008). Green-Collar Jobs in America's Cities: Building Pathways out of Poverty and Careers in the Clean Energy Economy.

Van Jones, Founder of Green For All, Special Advisor for Green Jobs, Enterprise and Innovation at the White House Council on Environmental Quality

attention as a green jobs visionary. He went on to found Green for All, a national organization focused on national green jobs policies, which is looking to connect grassroots, government and business sectors in creating jobs for disadvantaged communities.

As San Francisco and Oakland have received the majority of attention, it is another program in the Bay Area that may ultimately lead to bigger job gains. San Jose Mayor Chuck Reed has set a goal of creating 25,000 Clean Tech jobs. The mayor hopes to get there by doing more than just attracting more engineers to Silicon Valley. Officials hope that whether it's in alternative energy, water, green building or transportation, the new industries will supply blue-collar jobs, too.

San Jose is partnering with both local businesses and educational institutions. It's making sure that companies are telling community colleges and technical schools what skills they need. The schools are then crafting unique programs ranging from solar installer training to alternative transportation courses. One local community college — Foothill-De Anza — has an extensive green building program and has turned part of its campus into a test bed and living classroom for green building materials.

Last year, 300 to 400 students went through green job training programs at community colleges within San Jose's city limits, while 1,200 to 1,500 graduated from similar programs in the county, according to officials. The key in San Jose appears to be a combination of mayoral, college and business leadership at the highest levels — and a dedication to both the workforce and economic development side of the equation.

While these efforts are promising, by and large, most cities report that "green jobs" remain a concept — a target more than a reality. Some initial programs stalled, after cities discovered they were training workers for jobs that don't yet exist.

In Memphis, Tenn., officials were about to start adding solar installation training to a successful prisoner reentry program, which offers job training to low-level offenders. In the course of researching the program, however, they discovered that almost no one was actually purchasing solar systems in the city, leading them to focus instead on attracting solar companies before they start the job training program.

Sustainability directors in other cities are worried about encountering similar scenarios. "What we don't want to do is fall into the track of training people for these jobs and then the jobs aren't there," says Beth Strommen, manager of Baltimore's Office of Sustainability.

read this.

RECOMMENDED READING

- CURRENT AND POTENTIAL GREEN JOBS IN THE U.S. ECONOMY
  2008

  A report prepared for the U.S. Conference of Mayors

  A detailed, statistical look at what a green economy might look like, with an emphasis on cities.

- GREEN RECOVERY: A PROGRAM TO CREATE GOOD JOBS & START BUILDING A LOW-CARBON ECONOMY
  2008

  The Political Economy Research Institute

  A blueprint for how government investments can spur a green economy.

- GREEN COLLAR JOBS IN AMERICA'S CITIES: BUILDING PATHWAYS OUT OF POVERTY AND CAREERS IN THE CLEAN ENERGY ECONOMY
  2008

  Apollo Alliance and Green for All

  A blueprint for cities to link residents to family-supporting, career-track jobs in green industries.

- GOING GREEN: THE VITAL ROLE OF COMMUNITY COLLEGES IN BUILDING A SUSTAINABLE FUTURE AND GREEN WORKFORCE
  2008

  National Council for Workforce Education and the Academy for Educational Development

  An analysis of the growing role community colleges are playing in the green economy, with examples of innovative programs and recommendations for further action.

The Challenges Cities Face

Cities need help to overcome two key obstacles: attracting green businesses and training residents for the new jobs that come with them.

While green jobs are on the lips of most city officials focused on sustainability, Living Cities' research demonstrates the accomplishments of such programs have so far been modest, resulting in hundreds or perhaps a few thousand new jobs at best.

While these success stories lend credence to the idea that "green jobs" could provide viable pathways out of poverty, they also illustrate how much further cities need to go to realize this new green economy's potential. Part of the problem is that it is truly a new economy and many industries are just now getting to the point where they need to hire workers, but our research suggests that cities themselves also need to do more.

First of all, cities need to dramatically rethink their economic and workforce development systems. The first test for cities is an economic development one. To attract jobs, traditionally, cities have focused on traditional business incentive packages, which favor large-scale corporations, luring them to come or stay with promises of lower taxes, reduced utilities and developed infrastructure.

That model may work for a large wind turbine manufacturer, but the green jobs sector in any given city is much more likely to rely upon dozens of smaller companies, such as contractors who do rehab work in homes or who install solar panels. The challenge for cities will be to adapt their existing strategies to the small-scale, dynamic green jobs sector.

The shift towards green jobs will also demand that cities rework traditional workforce development. This is a system that is typically uncoordinated and disconnected from local employers. Understanding the demand side will entail tremendous effort as these new green skills are just now being deciphered. Green jobs, like many other parts of the economy, demand different types of workers, from skilled carpenters and electricians to landscapers and mechanics, each with their own existing experience, and unique needs for new skills. And the potential employer will not just be a hospital chain or a school system but dozens or even hundreds of small shops and firms.

Sadhu Johnston, the chief environmental officer in Chicago,

thinks that it won't be as easy as many think to encourage contractors, for example, to transition from building homes to renovating them.

"There is different equipment," he says. "There are different skills. You need to train those people. You need to get them interested in it. Talk to the homebuilding industry — this is not on their radar. If they do decide to make the transition to take advantage of this growing opportunity, we need to ensure they are capable of doing high-quality work."

If cities bend to understand and meet the needs of the new green economy, it could offer broader benefits. It could — and should — be an opportunity to force needed reform of the entire workforce system. This will entail building new capacity, bringing together a wide range of players, from community colleges and technical schools to nonprofit job training organizations to small businesses and, in addition, establishing a coherent funding strategy that makes sense of the dozens of disparate revenue streams needed to support this work. These are reforms that have been called for before, but the momentum around green jobs may be the spark to make it happen.

In the absence of such reform and coordination, the result could be job training programs that either don't realize the existence of new jobs in the local economy or prepare students for jobs that don't yet or no longer exist. In order to help both local businesses and the local workforce, cities need to better understand what each needs and help to link them.

It is also critically important to set clear credentials in the area of green jobs. With the rush to create more jobs and train more people, there is a need to ensure that individuals receive industry-approved skill training. It will be far too easy in this nascent field to erect programs with lax attention to standards or to the true demands of business.

Lastly, cities will need to work hard to ensure that all local residents — and particularly low-income residents who are often left out of these growth opportunities — have the chance to benefit from green jobs growth. The green jobs sector does include jobs at all skill levels, from landscapers and demolition workers to electricians and engineers. A green workforce development strategy that takes into account the needs of the under- and unemployed could help workers get entry-level jobs, while also continuing their training and helping them to advance. But, as with all sectors of their economy, city officials will have to make that a priority, rather than an afterthought.

CHAPTER THREE HIGHLIGHTS

Green jobs are a favorite strategy for pulling the economy out of a recession for everyone from advocates to President Obama. Until now, however, the sector has been more a concept than a reality.

The greatest promise in the short-term for the green jobs sector is in mass retrofits: employing laid-off workers from the construction sector in making buildings more efficient. Effective finance structures will be the key to unlocking this opportunity.

Most cities are exploring the potential of green jobs, but their nascent programs have led to just a handful of jobs so far.

Cities have traditionally struggled in the arenas of economic development and workforce development: The coming wave of green jobs will test both sectors, but also presents an opportunity to finally re-engineer and adapt systems, especially for low-income workers who desperately need skills.

4 Transportation

Perhaps the most significant step a city can take toward sustainability is to focus on improving access to greener forms of transportation. Vehicle traffic from cars and trucks is a massive source of greenhouse gas emissions in cities, accounting for between 20 and 50 percent of the total, depending upon the urban area.[xi]

Recent years have seen cities across the country invest in mass transit, doing everything from expanding light rail to adding bus lines to building bikeways. Cities have beefed up transit not just to battle climate change but to revitalize neighborhoods, improve air quality and help the local economy. These policies have simultaneously made urban areas more efficient and more desirable places to live.

Transit projects big and small are underway across the land, even in the cities where highways have traditionally been king. Despite these positive trends, mass transit remains a complex fiscal and logistical puzzle for many cities and regions. These challenges are worsening in today's financial climate, as gas prices slide back down and city and state governments address widening deficits.

Cities have also struggled to incorporate equity into their transit planning. The evidence suggests that most new projects aren't reaching the neighborhoods where poor people live, limiting their economic opportunities and continuing to subject residents to higher incidences of asthma and other illnesses closely linked to car and truck traffic. And, perhaps even worse, when new transit does move into low-income neighborhoods, it often serves as a magnet for development that drives up prices and pushes longtime residents and business owners out.

TRANSIT-ORIENTED DEVELOPMENT CAN SIMULTANEOUSLY IMPROVE BOTH HOUSING AND TRANSPORTATION FOR STRUGGLING FAMILIES IN URBAN AREAS.

The Rebirth Of Mass Transit In American Cities

More people are riding trains and buses — and cities across the country are starting to shun car-led development and invest in transit growth.

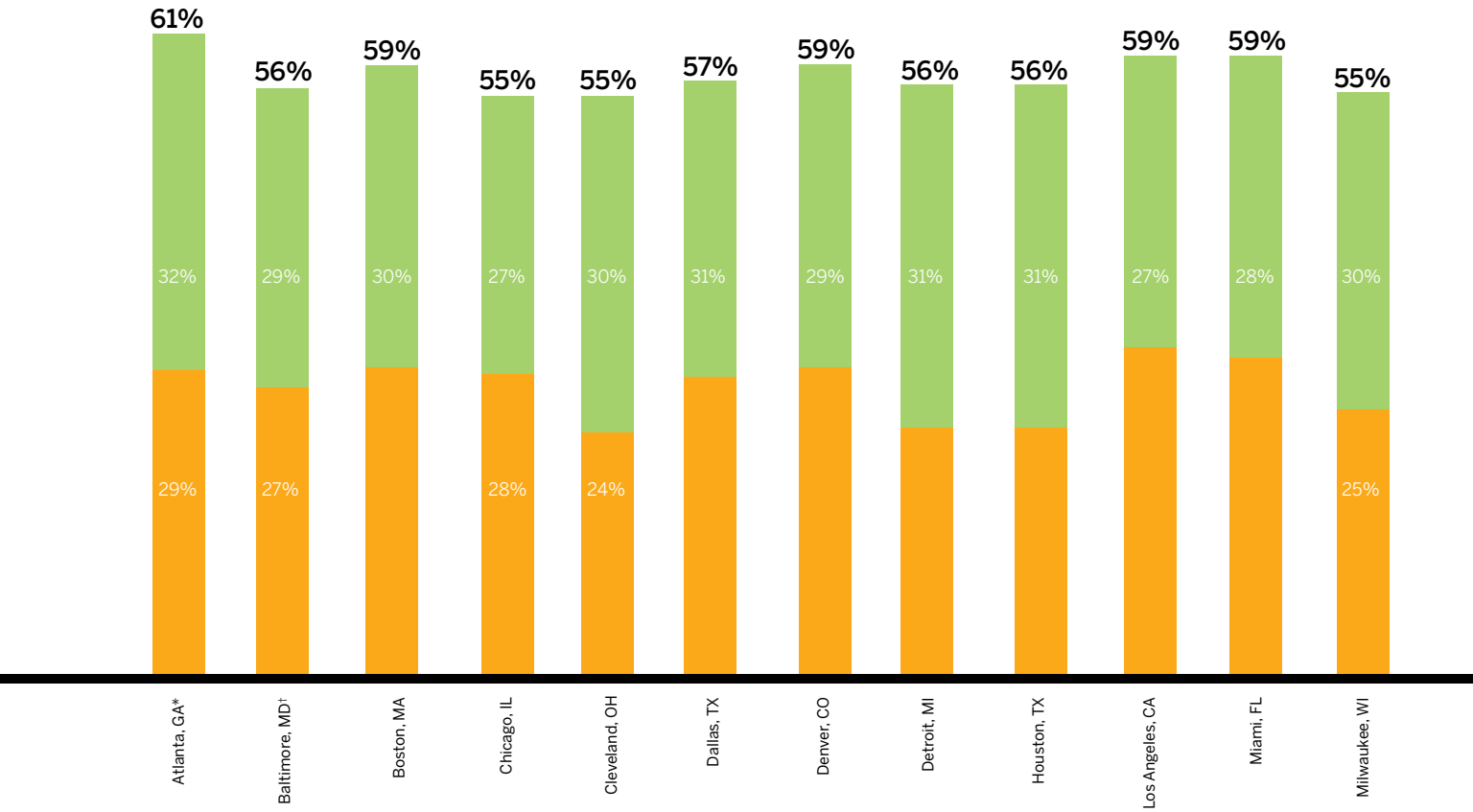
Overall, rising energy costs have driven increases in public transit ridership in virtually every city in the Living Cities survey. "Before, the public viewed mass transit as something poor people take," says Karl Pepple, Houston's director of environmental programming. "Once gas prices [started rising], we had standing room only. That has done wonders for perception."

In addition, cities and their residents are realizing that the costs of sprawl — both to the environment and their pockets — outweigh any perceived benefits. Sprawl has made roads more congested and reduced the supply of developable land, making it difficult for government agencies to pay for public services.

"We've seen that that kind of spread-out development isn't feasible," adds Kelly Rayne, policy advisor to the mayor of Shelby County, which includes Memphis. "There has been a cry from the community for walkable neighborhoods and alternative transportation."

As cities have begun to question their love affair with the car, they're also changing the way transportation serves cities. Cities are studying and investing

WHAT WORKING FAMILIES[1] SPEND ON HOUSING AND TRANSPORTATION



[1] WORKING FAMILIES ARE HOUSEHOLDS WITH INCOMES BETWEEN $20,000 AND $50,000

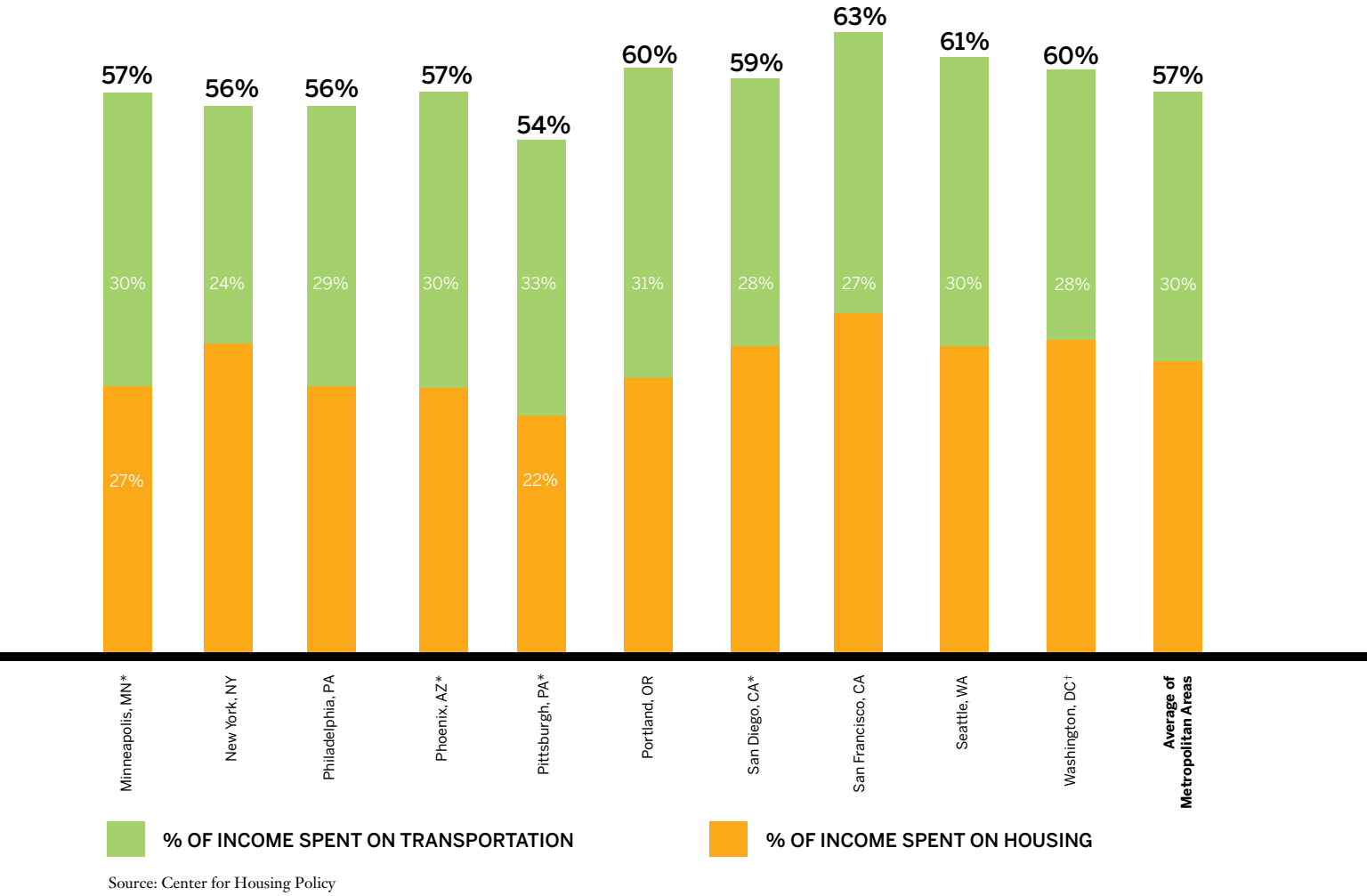
NOTE: All areas are Consolidated Metropolitan Statistical Areas excepts as follows: Those marked with a "*" are Metropolitan Statistics Areas and those marked with a "†" are Primary Metropolitan Statistical Areas. Combined totals may reflect slight differences due to rounding.

in transit-oriented development (TOD) — simply put, building cities up around transit hubs as opposed to out along highways — as a key element of getting communities to embrace higher-density development and to refresh neglected neighborhoods and business districts.

Transit-oriented development is so appealing because it can simultaneously improve both housing and transportation for families who struggle in so many urban areas to get by. A typical working family in a large American city spends the bulk of their paychecks — around 60 percent of their income — on transportation and housing, according to research from the Center for Neighborhood Technology.

Cities have turned their attention to improving their transit options not least of all because their residents are clamoring for transit-oriented development — that is, walkable, mixed-use urban neighborhoods built around rail and bus systems. The demand for living near transit could grow from 6 million to 16 million houses by 2030, according to research by transit advocates Reconnecting America.

Look around the country, and mass transit has been the largest development driver, much more so than sports stadiums or new



Source: Center for Housing Policy

"Before, the public viewed mass transit as something poor people take. Once gas prices [started rising], we had standing room only. That has done wonders for perception."

- Karl Pepple, Houston's director of environmental programming

highways. From Seattle to Denver and beyond, dozens of new train stations and express bus corridors are transforming cities.

Denver also has big light rail plans. In 2004, the city and 37 others in Colorado approved a tax increase to build the "most ambitious public transportation expansion in the country," according to Michele Weingarden, the director of Greenprint Denver. The project, which is expected to open between 2013 and 2016, will include 57 stations and 109 miles of rail.

CITY OFFICIALS ACROSS THE COUNTRY ARE INVESTING IN THREE CORE STRATEGIES FOR BUILDING UP PUBLIC TRANSPORTATION: ERECTING NEW LIGHT RAIL, STREETCAR OR SUBWAY LINES; EXPANDING LOCAL BUS SYSTEMS; AND ENCOURAGING WALKING AND CYCLING.

Even traditionally car-centric metro areas, from San Diego to Charlotte, are green-lighting mass transit projects. In December, Phoenix opened its first light rail line, a 20-mile line with 27 stations that connect the city with Tempe and Mesa. It was a tough battle to get it built, with voters rejecting several funding proposals before finally approving one in 2000, according to the city's former environmental programs manager, Karen O'Regan.

"Everyone said it couldn't be done in a sprawling Western city," says O'Regan. "This will change the face of Phoenix."

City officials across the country are investing in three core strategies for building up public transportation: erecting new light rail, streetcar or subway lines; expanding local bus systems; and encouraging walking and cycling.

Leading the way on transit

Cities are viewing transit and land-use policies as tools for creating an equitable green economy.

When Saint Paul Mayor Chris Coleman delivered his inauguration address in 2006, he described the proposed 11-mile, 15-station Central Corridor transit project connecting downtown Saint Paul to eastern Minneapolis as bigger than just getting people from point A to point B. When completed, he said, residents will benefit from "a corridor of opportunity — a bustling, colorful consortium of new housing, environmentally-friendly transportation, small and large businesses, rich in diversity. We will be connected in a new way to our Twin City." To help realize this vision, the city of Saint Paul initiated a multiyear planning process that engaged a diverse mix of residents, business owners, transportation and environmental advocates, developers and other stakeholders.

The mayor acknowledged in his address that big public works projects often stoke fear and suspicion among low-income and minority residents, who have previously seen new highways, for example, tear through their homes and neighborhoods. But Coleman said the Central Corridor project would be different. "Those impacted by the creation of light rail in the Central Corridor will have a seat at the table," Coleman promised. "We will build this corridor, but we will respect those who are touched by this effort."

Hometown philanthropic institutions, including the Saint Paul Foundation and the McKnight Foundation, became interested when they heard the mayor's message. They reached out to City Hall and offered to lend support. In time, other foundations got involved, and a Central Corridor 'Funders Collaborative' was born. The collaborative hired a consultant and organized a 21-member task force to determine how the city should develop the commercial and residential neighborhoods clustered along the University Avenue leg of the corridor. The task force's final plan was adopted by the City Council in the fall of 2007. Ground on the new rail line has not yet been broken, but observers are hopeful that once development does begin, the integrity of the plan will be preserved.

The Bay Area has also been long considered a leader in mass transit and smart growth.

The region is breaking ground by mandating transit-oriented development, after several successful pilot projects convinced planners to mandate similar policies. In 2005, its regional Metropolitan Transportation Council announced it would only fund new transit projects if cities planned and zoned for a minimum threshold of homes around new stations. It's an innovative funding policy, perhaps the first in the country that directly ties access to transportation funds with land-use policies that promote and shape development.

Observers point to Oakland's recently built Uptown project as a model example of transit-oriented development. It's a mixed-use development near a subway station that managed to link the interests of the community, developers and the city. A local community organization, the East Bay Community Organization, fought to ensure the development would also benefit nearby low-income residents. Of the new housing being built, 30 percent is targeted for low- and moderate-income households.

"[Denver is building the] most ambitious public transportation expansion in the country."

- Michele Weingarden, director of Greenprint Denver

Coordinating and Funding Mass Transit

More cities want to be on the mass transit train, but finding the resources to expand their systems remains a major hurdle.

Expanding mass transit, particularly rail, is a huge task for any city. Building new lines and stations costs millions — and sometimes billions. Cities must build consensus with their regional partners to get big projects built.

One of the main sources of funding cities' transportation needs is federal gas taxes. But those funds are not awarded directly to cities: They are instead given either to states or to regional planning bodies, which typically include representatives from area cities but also from other municipal and county governments. About six in 10 cities report to Living Cities that such governing structures are not a major obstacle: They successfully partner with other local governments and those regional agencies. About one in four cities do report difficulties, however, because they don't have adequate input into regional decision-making.

In the Bay Area, there are 27 different transit agencies that all need to work together, and according to Shelley Poticha, president and CEO of Reconnecting America, they don't coordinate service very well, making it hard to live without a car in much of the region. "People want coordinated transit service and are ready to work together at a regional level, but right now we don't have clear leadership or a single institution to help get us to that next level of regional collaboration," she says.

Similarly, in Baltimore, "the bus system is run by the state, and we'd really like to have more say with regards to how it's run," says Sarah Zaleski, the city's sustainability coordinator. The question of how to fund sprawl-squashing mass transit projects remains a massive challenge for cash-strapped states and municipalities. The up-front costs for expanding mass transit are huge: Light rail, for example, costs from about $15 million to $100 million per mile.[xii] Seattle's new light rail system was even more costly, due to the need for extensive tunneling. It ultimately cost about $179 million per mile.[xiii]

Even where elected officials have made transit a priority, money is not always forthcoming. In California, for example, new state laws encourage smart growth and mandate greenhouse gas cuts, but the state is also facing its largest deficit ever, forcing the government to give less funding to cities. In Minnesota, a new quarter-cent sales tax that area counties can elect to enforce is expected to generate $100 million in new revenue each year, creating a fresh and reliable income source for mass transit and roads. However, it remains to be seen which counties will levy the tax and how the funds will be spent.

Finding the millions and billions to expand mass transit will be especially challenging given

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the current financial crisis. As of April, 42 state governments and the District of Columbia are facing a combined shortfall of $101 billion this fiscal year — 15 percent of their total budgets — according to the Center on Budget and Policy Priorities.

Transit agencies have been particularly hard hit by the recession, complicating efforts not just to build new transit but to run the systems cities currently have. In New York, the Metropolitan Transportation Authority is projecting a deficit of $2 billion, due to higher-than-expected drops in tax and fare revenue. The Massachusetts Bay Transportation Authority, which serves Greater Boston, has a $160 million deficit. These shortfalls are forcing authorities across the country to raise fares and cut service.

That's one of many reasons that urban officials are calling on Congress to rethink how it apportions federal transportation dollars, which have long been biased towards building highways and not rail lines or bus corridors. The federal transportation bill is up for reauthorization, and many proponents of smart growth are urging that greater emphasis be placed on mass transit in order to enhance environmental performance, climate protection and green development.

The current bill is heavily weighted towards highways and bridges. "It's really so wretched right now," says Beth Strommen, Office of Sustainability manager for the city of Baltimore. "It's all pork barrel earmarks, and there's no real planning for transportation infrastructure in a broad sense. The goal is to give transit and bike/pedestrian paths as much say as highways have always gotten, but right now, it's all highway and very little transit."

In the Twin Cities, advocates note that, for mass transit projects, the feds only supply 50 percent of matching funds whereas for roads they subsidize 80 percent of highway costs.[xiv]

read this.

RECOMMENDED READING

- GROWING COOLER
  2008

  Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters, Don Chen

  Focusing on vehicle emissions, this investigative report clearly makes the case that dense, urban development is an essential factor in combating climate change.

- CAPTURING THE VALUE OF TRANSIT
  2008

  Reconnecting America's Center for Transit-Oriented Development

  A comprehensive review of the impact of transit on property values.

- TRANSIT-ORIENTED FOR ALL: THE CASE FOR MIXED-INCOME TRANSIT-ORIENTED COMMUNITIES IN THE BAY AREA
  2008

  The Great Communities Collaborative

  Deep case studies of two projects with practical advice for other communities.

- THE NEW TRANSIT TOWN: BEST PRACTICES IN TRANSIT-ORIENTED DEVELOPMENT
  2008

  Hank Dittmar (Ed), Gloria Ohland (Ed)

  Essays on transit-oriented development from leading experts in planning, transportation and sustainable design.

Transportation For All

Cities need to make sure new transit connects all kinds of neighborhoods and provides opportunities for low-income people.

Even as transportation systems grow in cities throughout the country, equity remains a major problem. Most if not all new transit lines and projects tend to reinforce existing inequities within cities: They channel commuters from higher-income neighborhoods downtown or to other employment centers. This tends to be true both of transit lines and of cycling and pedestrian thoroughfares. Another concern is that transit-oriented development will propel gentrification, leading to skyrocketing rents in newly hip neighborhoods.

In order to counteract potential inequalities, some cities have policies that require inclusion. In the Bay Area, the Metropolitan Transportation Commission provides bonus funds awards for projects that include affordable housing units in transit-oriented developments. San Francisco's recently completed Third Street light rail project, which connects the low-income Bayview neighborhood to the rest of the city, was funded by a half-cent sales tax that was approved and renewed by city residents several times. Some believe that by keeping the ballot measure focused broadly on transportation throughout the city, San Francisco cuts down on any bias voters might have against extending the transit network to low-income neighborhoods.

However, even when cities try to strike an equal balance in the design of their transit systems, equity remains an issue. In the Twin Cities, for example, when station plans for the Central Corridor project were first unveiled by the Metropolitan Council, some advocates and community members were disappointed by what they saw.

The Central Corridor line will run along University Avenue, a heavily trafficked thoroughfare mostly lined with muffler shops, car lots and big box stores. On its eastern wing, however, the avenue is home to scores of immigrant businesses and is known as "Frogtown," one of the most ethnically diverse neighborhoods in all of Saint Paul. Immigrants of Hmong, Somali and Latino backgrounds have flocked

here in recent decades to live and start businesses. Many of Frogtown's residents are low-income and rely on public transit to get around.

The proposed Central Corridor stations on the eastern wing of University Avenue are plotted in one-mile intervals, a decision driven by federal funding mandates. When word got out that the stations would be that far apart, and that local bus service would be reduced when the line opens, many Frogtown residents feared they would end up with worse transit options than they have without light rail.

To help offset these concerns, the city of Saint Paul has pledged to build three additional stations along University Avenue. But local residents remain skeptical.

Once stations are planned and built, cities must ensure that low- and moderate-income communities nearby aren't forced out by gentrification. As neighborhoods with easy access to transit become more attractive places to live and work, low-income people are typically priced out of the market, and once again pushed into areas that are not well served by transit.

Those trying to ward off displacement in gentrifying neighborhoods have various tools at their disposal to require that developers maintain and/or build affordable housing.

In the Twin Cities, advocates, policymakers and funders are developing plans to ensure that neighborhoods along the corridor stay affordable for current residents. One idea they're exploring is creating a land trust to preemptively buy up land around the corridor so it is secured for future affordable housing development.

Similar efforts are underway in various neighborhoods in the Bay Area. In the Bayview district of San Francisco, the Third Street light rail has made land throughout the neighborhood more attractive to developers. To try to safeguard the remaining developable land in the area, Reconnecting America and several other organizations are exploring the feasibility of buying land and earmarking it for affordable housing.

Advocates and funders elsewhere are exploring less-costly strategies, including zoning rules, community benefit agreements, tax increment financing and other means to ensure that transit-oriented development achieves its full potential to boost neighborhoods while not ignoring the fates of its poorer residents.

CHAPTER FOUR HIGHLIGHTS

Cities across the country are investing in mass transit and other strategies to reduce car use. They're doing so in part because they see that transit can spur neighborhood development.

They'd like to do even more, but cities struggle to put together the billions needed to build new transit lines. Arcane federal transportation policies — and the challenge of regional coordination — don't help.

Cities need to make sure that new transit also benefits low-income communities, rather than displacing them. Some are embracing innovative strategies to ensure that development benefits all residents in adjoining neighborhoods.

5 Conclusions and Recommendations

Cities are well positioned to lead the way towards an economic recovery that launches America's green economy. As this report has documented, a growing number of cities are on the vanguard of addressing climate change issues. They are creating new mechanisms to simultaneously reduce energy waste, cut carbon emissions and create new economic opportunities.

But as aggressive as cities have been, this report has also revealed that their efforts have gone only so far on their own. Financing for transit and building retrofits is exceedingly complicated and hard to access. And approaches to nurturing green jobs and assisting low-income and struggling job seekers are still very much in the nascent stage.

Cities can, however, make far greater progress with support from an active and engaged federal partner, as the Obama administration appears committed to being. The recently passed economic recovery bill provides billions of dollars for transit and energy retrofit programs and several hundred million in workforce development funds specifically targeted to green-collar jobs. The administration's agenda on energy and environmental issues includes a commitment to cap greenhouse gas emissions, deploy "smart grid" technologies and invest in sustainable growth and transportation.

So, while cities should be able to count on assistance from the federal government, they still must continue to innovate and evolve. To make that transition successfully, cities need to work with a wide array of local partners from business, labor and philanthropy. Sustainability issues are inherently interconnected, and any thoughtful approach also requires cities to think across silos (e.g., housing, transportation, economic development, education and workforce development, energy policy) and act collaboratively to construct feasible sustainability plans.

Based on Living Cities' survey of cities, and discussions with experts and practitioners around the country, we offer several broad recommendations to city and local leaders on how to advance greener buildings, greener jobs and smarter transit for low-income people. These recommendations do not purport to be comprehensive. Rather, we intend these ideas to help set the stage for cities — in partnership with local partners, states and the federal government — to forge a comprehensive set of policies to be greener and more equitable communities.

In each of these areas, we recommend a thematic approach to policymaking.

- To achieve the energy savings and green job opportunities possible through green buildings, cities must retrofit through systems that can achieve scale.
- To create green-collar jobs at scale, cities must re-engineer their local economic and workforce development systems.
- To spur more equitable transit-oriented development, cities need to reorient their local real estate markets.

We are acutely aware that none of this is easy. While there is room, and in many cases necessity, for incremental progress and piecemeal solutions, we believe that larger visions and sustained political commitment at the local level will be required to seize this moment of opportunity.

Buildings: Retrofitting through new systems that can achieve scale

While a growing number of cities recognize the benefits of making their homes, schools, commercial buildings and public facilities more energy efficient, very few have developed an approach that yields significant scale at a rapid pace. Living Cities believes that a systemic approach to retrofitting existing buildings is essential to achieving the carbon reduction and job creation potential of such initiatives.

By "building an energy retrofit system," we mean a locally or regionally led effort that coordinates public and private sector financing, workforce development and marketing and outreach efforts to drive significant improvements in building performance. The goal is an enduring program that can retrofit large numbers of buildings while creating sustainable careers, especially for low-income workers. Such a system should be built using the following key steps.

THE GOAL IS TO RETROFIT LARGE NUMBERS OF BUILDINGS WHILE ALSO CREATING SUSTAINABLE CAREERS, ESPECIALLY FOR LOW-INCOME WORKERS.

- **ORGANIZE.** First and foremost, localities need a single entity to coordinate public and private sector financing, marketing and outreach efforts to achieve large-scale improvements in building performance, and to create job opportunities for low-income people. The coordinating, or aggregating, entity could be a local government agency, a utility, a nonprofit intermediary, a for-profit intermediary whose governance structures were selected by impact investors or other public-private partnership.
- **FUND.** To achieve scale, cities must gain access to systems with sufficient capacity to fund a huge number of energy efficiency improvements. They can leverage funds from public subsidy, local bonding authority, on-bill financing, rate-based retrofit systems or other district-level financing. They can tap into the emerging energy and environmental financial markets. Cities can also use public funds to attract pools of capital from private and philanthropic institutions. These collaborations can create venture funding for businesses engaged in the retrofit work.
- **PREPARE WORKERS.** Retrofits at scale will create large numbers of jobs. Addressing the supply side of the retrofit equation will require radical change, as most workforce programs are poorly organized and do not address the needs of the employers who will be adding skilled workers. Cities need to take the lead, along with local colleges and nonprofits, to use retrofits as an opportunity to re-make existing workforce systems to ensure people are well trained for careers in the green economy.
- **MARKET AND SELL.** Finally, marketing is critical. Even the availability of funding for retrofits would not automatically create demand. Nonprofits and intermediaries should experiment with new messengers and messages to promote energy efficiency, and partner with private sector and utility companies to create user-friendly programs that simplify the retrofit process.

Jobs: Reengineering workforce and economic development systems

The idea of green jobs has become a favorite strategy for economic recovery for everyone from environmental advocates to President Obama. Until now, however, green jobs have been little more than a concept. Most cities are just starting to support nascent programs that, at most, have led to a handful of jobs.

With the country's economy in tatters and new recovery dollars available to spark creative programs, the time is right to try a different approach for both encouraging job growth and training workers for those positions.

CITIES AND STATES MUST WORK TOGETHER TO RETHINK THE TRADITIONAL ECONOMIC DEVELOPMENT APPROACH OF PROVIDING LARGE INCENTIVE PACKAGES TO A SINGLE EMPLOYER.

- **SUPPORT SMALL AND MID-SIZED BUSINESSES.** Cities and states must work together to rethink the traditional economic development approach of providing large incentive packages to a single employer. The green economy is so diverse, typically driven by small and entrepreneurial companies, that a more systemic approach is necessary — one that creates a supportive and enabling environment for the full spread of green businesses. Additionally, this is an industry that is more regional than most. States, cities and counties will have to work cooperatively to attract and retain companies with a cross-municipal presence.
- **DEFINE WHAT SKILLS ARE NEEDED.** Local and state leaders must recognize that an entirely new approach to workforce development is needed — one that is far more industry-responsive, nimble and focused on credentials. This must start with states taking the lead to ensure that the appropriate state education body establishes — with industry input — appropriate credentials. With so much focus on green jobs and a flood of new job funds available via the recovery bill, opportunities for shoddy and ineffective training will proliferate.
- **TAILOR JOB TRAINING TO THOSE WHO MOST NEED IT.** Finally, at the local level, officials should craft green jobs initiatives that respond to their local labor market realities with a particular focus on the under- and unemployed. Cities, working in conjunction with the business community, should create green-collar career pathways that provide not only job placement services but also continued career advancement. A meaningful commitment by city leadership and perhaps a small investment (or redeployment) of local dollars could entice the philanthropic community to provide funds for the planning and start-up efforts needed to launch comprehensive green jobs efforts.

Transportation: Reorienting local real estate markets

Even more than green building and jobs, the transportation field needs considerable regional and federal assistance to advance. Clearly, a major increase in federal funding for transit and smarter national transit policies must be a central pillar of this country's domestic agenda. The current annual shortfall in transit funding is estimated to be in the tens of billions. Increased investments are needed to support virtually all aspects of robust urban public transit systems, including technology and service improvements, fare subsidies, technical support and clean fuel purchases. Additional funds are needed to support transportation alternatives: carpooling, telecommuting, bicycle and pedestrian uses and programs to reduce traffic congestion.

Many aspects of road and transit policy are beyond local control. So what can cities do?

CITIES SHOULD DO WHAT THEY CAN TO REDUCE DRIVING AND ENCOURAGE COMPACT DEVELOPMENT BUILT AROUND ACCESSIBLE TRANSIT.

- **REMOVE LOCAL BARRIERS.** It is well established that local regulations — building codes, zoning policies, storm water management procedures and land-use requirements — often undermine and sometimes prevent transit-oriented growth and development. Cities should commit to identifying and removing these barriers, which often contribute to both negative environmental as well as social outcomes. Cities can also incentivize transit-oriented development via sharing infrastructure development costs and adopting innovative financing mechanisms such as Tax Incentive Financing (TIF) districts. More coordinated planning between municipal, metropolitan and state levels is also essential.
- **ENCOURAGE DENSITY.** Cities should do what they can to reduce driving and encourage more compact development that includes accessible transit. This does not need to mean penalizing people for driving. Cities can instead target their limited development resources to robust local community centers. Recent research has found that more compact development leads people to drive 20 percent to 40 percent less, improves residents' health and can help people save money.[xv] Cities are inherently more compact to begin with. They should build (literally) on this advantage by coordinating development density with transportation and transit policy.
- **CREATE A LEVEL FIELD FOR BALANCED INVESTMENT.** Fundamental real estate market dynamics typically drive up land costs near transit, complicating local efforts to ensure that development is environmentally sustainable and socially equitable. Capital and incentives to preserve and develop affordable housing near transit and to spur mixed-income, mixed-use developments can help ensure the creation of attractive transit-oriented communities. Cities should explore the creation of land banks that can hold land for development, as well as consider using city funds to catalyze investment by private and philanthropic sources. institutions. Cities have innovated along these lines in housing and community development for years, pooling disparate sources of funding for catalytic programs. The approach can serve as a model for transit oriented development.

Methodology

In composing this report, Living Cities conducted a comprehensive review of policy literature, spoke to experts in the field—from academics to environmental officials to heads of key nonprofit organizations — and closely examined city programs. The cornerstone of our findings came from an original survey of green efforts in 40 of America's largest cities. The survey assessed local efforts around sustainability, both generally and specifically, in the area of buildings, jobs and transportation. We surveyed officials—typically the sustainability director or the official holding the equivalent position—using structured interviews that lasted up to one hour. (See questions below.)

CITIES SURVEYED (RANKED BY POPULATION):

NEW YORK CITY	DETROIT	BOSTON	OKLAHOMA CITY
LOS ANGELES	JACKSONVILLE	EL PASO	TUCSON
CHICAGO	SAN FRANCISCO	MILWAUKEE	ALBUQUERQUE
HOUSTON	INDIANAPOLIS	SEATTLE	ATLANTA
PHOENIX	COLUMBUS	NASHVILLE	MIAMI
PHILADELPHIA	AUSTIN	DENVER	OAKLAND
SAN ANTONIO	FORT WORTH	WASHINGTON, D.C.	MINNEAPOLIS
SAN DIEGO	MEMPHIS	LAS VEGAS	PITTSBURGH
DALLAS	CHARLOTTE	LOUISVILLE	SAINT PAUL
SAN JOSE	BALTIMORE	PORTLAND	CLEVELAND

THE GREEN SURVEY:

- Why is your city dedicated to green (e.g., save money, earn money, healthier lives; trendy; mayor personally thinks it's the right thing to do)?
- Would you say that green and sustainability are one of your mayor's top five priorities?
- Do you have a sustainability plan? If so, when was it written? What targets are laid out in it? How long of a timeline does it cover? What are the measurable aspects of your carbon reduction plan?
- Which parts of your sustainability plan — green building, waste management, transportation, etc. — are most advanced?
- How large is your staff?
- How large is your budget?
- Which state policies most affect your sustainability initiatives?
- Which federal policies (until now) have most affected your sustainability initiatives?
- How do you include low-income residents in your initiatives?

BUILDING

- Which programs do you have that are specific to green building in your city?
- Concretely, how have you progressed in your efforts to encourage green building?

JOBS

- Which programs do you have that are specifically focused on green-collar jobs?
- Concretely, how have you progressed in your efforts to create green-collar jobs or train city residents to take on green-collar jobs?

TRANSPORTATION

- What programs do you have specifically focused on sustainable transportation modes and encouraging the use of public transportation?
- Concretely, how have you progressed in your efforts to promote sustainable transportation modes? Do you have control of your transportation systems? How much say do you get to have about various transit initiatives?

SURVEY RESULTS: What America's Biggest Cities are Doing About Climate Change.

Living Cities interviewed environmental officials responsible for sustainability and climate change programs in 40 of the nation's largest cities. In this one-of-a-kind survey, we discovered:

4/5 big cities report that ***sustainability*** is among their ***top five*** priorities. Only about one in six says it is not.

1/2+ of big cities are either currently creating sustainability plans, or have finished one within the past year. About one-fourth of cities finished their plans earlier.

3/4+ of big cities have, or will soon have, detailed plans on how they will reduce greenhouse gases. Their targets vary, but not widely: Nearly all call for an emissions cut of between 10 to 20 percent in the next five to 10 years.

WHEN ASKED WHICH PARTS OF THEIR SUSTAINABILITY AGENDA WAS FURTHEST ALONG, BIG CITIES IDENTIFIED THE FOLLOWING *(MANY GAVE MORE THAN ONE ANSWER):*

4 in 10

say that their efforts in encouraging and mandating green building are among their most advanced.

about 1/4

of cities report success in recycling, water conservation, and greening their vehicle fleets.

around 3/10

reported advancements in energy conservation.

HOW MUCH BIG CITIES ARE INVESTING IN REDUCING GREENHOUSE GASES VARIES WIDELY:

Several cities report that they have a single staff member dedicated to these issues, while others report they have several dozen. THE TYPICAL BIG CITY HAS BETWEEN

THREE AND 10

STAFF MEMBERS FOCUSED ON CLIMATE CHANGE AND SUSTAINABILITY.

More than **2/3** of cities reported that STATE AND FEDERAL GOVERNMENT HAVE LITTLE OR NO IMPACT ON THEIR WORK.

Reports about budgets are similarly varied, with responses falling between $75,000 and $15 million. MOST CITIES REPORTED BUDGETS OF BETWEEN

$150,000 AND $500,000

CITIES HOPE TO ATTRACT GREEN JOBS

- Nearly **all cities surveyed by Living Cities report they would like to attract green-collar jobs and industries.**
- About one in three of cities have partnered with area colleges and created training programs on green jobs.
- About one in six report they have programs that place trainees in green jobs.

CITIES ARE BUILDING MORE E ICIENT BUILDINGS

- About two-thirds of cities **mandate LEED silver standards for new city-owned or city- funded construction.**
- About one in four cities have green building mandates that go beyond city buildings and apply to private construction: usually commercial and, in a few cases, residential.
- Nearly half of cities have programs subsidizing insulation, energy-efficient appliances and weatherization.

CITIES ARE EXPANDING TRANSIT — AND THEY WANT TO DO EVEN MORE

- Rising energy costs have driven **increases in public transit ridership in virtually every city** in the Living Cities survey.
- A significant number of cities (between one-fourth and one-half surveyed) reported they're investing in one or more of four central strategies to boost mass transit:
  - building new light rail, streetcar or subway lines
  - expanding local bus systems
  - encouraging walking and cycling
  - subsidizing public transportation for city employees.

Footnotes

[i] Cities generally use the term "sustainability" to describe their efforts to reduce their greenhouse gas emissions. It's a category that encompasses many green efforts, from building transit to fixing up parks, even though not all those efforts are as directly tied to carbon reductions.

[ii] One notable exception is California cities, which are working to implement AB 32, a 2006 state law which requires California to reduce its greenhouse gas emissions to 1990 levels by 2020.

[iii] http://en.wikipedia.org/wiki/Memphis,_Tennessee

[iv] "An Overview of the U.S. Building Stock," by Richard C. Diamond. http://eetd.lbl.gov/IE/pdf/LBNL-43640.pdf

[v] "Historic Preservation's Essential Role in Fighting Climate Change," an address by Richard Moe, president, National Trust for Historic Preservation. http://press.nationaltrust.org/index2.php?option=com_content&do_pdf=1&id=219

[vi] "Retrofitting Existing Privately Owned Affordable Housing—A Literature Review of Research That Demonstrates Job Creation as a Result of Greening Multifamily Buildings," Stewards of Affordable Housing for the Future. http://www.sahfnet.org/index_17_1_1.pdf

[v] "Towards a Climate-Friendly Built Environment," Pew Center on Global Climate Change. http://www.pewclimate.org/docUploads/Buildings_FINAL.pdf

[vi] "Green Collar Jobs: An Analysis of the Capacity of Green Businesses to Provide High Quality Jobs for Men and Women with Barriers to Employment," by Professor Raquel Pinderhughes. http://bss.sfsu.edu/raquelrp/documents/v13FullReport.pdf

[vii] "Current and Potential Green Jobs in the U.S. Economy." http://www.usmayors.org/pressreleases/uploads/GreenJobsReport.pdf

[ix] "Green Recovery: A Program to Create Good Jobs and Start Building a Low-Carbon Economy." http://www.americanprogress.org/issues/2008/09/pdf/green_recovery.pdf

[x] "Cities and Climate Change," by David Sattherwaite. http://www.urban-age.net/10_cities/08_saoPaulo/_essays/SA_Sattherwaite.html

[xi] Also, "GREEN LA: An Action Plan to Lead the Nation In Fighting Global Warming." http://www.lacity.org/ead/EADWeb-AQD/GreenLA_CAP_2007.pdf

[xii] "Status of North American Light Rail Projects." http://www.lightrail.com/projects.htm

[xiii] "Link Light Rail Projects." http://www.soundtransit.org/x1171.xml

[xiv] "Data Points: Transportation Spending in the U.S.," the Apollo Alliance. http://apolloalliance.org/news/data-points/data-points-transportation-spending-in-the-us/

[xv] Growing Cooler, *Urban Land Institute*

Credits

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Notes

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