A Time Like No Other: Charting the Course of the Next Revolution


www.bostonindicators.org
Welcome to MetroBoston DataCommon

MetroBoston DataCommon is a new online mapping tool. A partnership between the Metropolitan Area Planning Council (MAPC) and the Boston Indicators Project, it makes available a wealth of data about 101 cities and towns in Eastern Massachusetts. Explore data, print out instant community snapshots or maps, and create your own datamaps.

What's New?

New Suburban Mobility/TDM Program Special Datasets

Upcoming Free Training Sessions:
May 15 - Roxbury
May 24 - Acton
June 4 - East Boston

The Boston Indicators Project is coordinated by the Boston Foundation in partnership with the City of Boston and MAPC. It measures and reports on change in Boston in ten sectors. The Boston Indicators Project links to recent research and other data-rich websites. It features a Hub of Innovation, At-A-Glance indicators and profiles, and a Civic Agenda.

The Metropolitan Area Planning Council (MAPC) is a regional planning agency representing 22 cities, 79 towns, and 3,067,000 people. Its area includes 1,422 square miles stretching west from Boston to Route 495. To enhance the region's quality of life and economic competitiveness, MAPC is engaging residents and planners in creating a new 25-year plan, MetroFuture.

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A Time Like No Other: 
Charting the Course of the Next Revolution

A Summary of the
Boston Indicators Report
2004 – 2006

A PROJECT OF THE BOSTON FOUNDATION AND GREATER BOSTON’S CIVIC COMMUNITY

Co-sponsored by
The City of Boston and The Metropolitan Area Planning Council

In cooperation with
Many public agencies, civic and educational institutions, research institutes, and community-based organizations

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June 2007

Cover photo by Richard Howard: Fourth graders, Josiah Quincy Elementary School
Dear Friends:

Boston is a proud city, rich in diversity and skilled minds. Our talent for innovation and growth, combined with our concerted efforts to bridge the gaps of opportunity, help us to meet the responsibility we have to reach our full potential.

Our nationally recognized advancements in housing and sustainability have contributed greatly to the progress of our mission. Leading the Way I and II, my administration's pioneering housing strategy, succeeded in adding 18,000 units of housing in the City of Boston, the equivalent of adding a new neighborhood the size of Jamaica Plain or West Roxbury.

Our green agenda is focused on reducing our energy consumption in both buildings and vehicles, and increasing our use of renewable energy. Towards that end, in January 2007, Boston became the first major city in the nation to require a green building standard for private development. This spring we also committed to planting 100,000 new trees by 2020, increasing the city’s tree canopy cover by 20%.

While we are proud of our accomplishments, we also recognize that there is more work to be done. Our future depends on the collaborations of our vast network of partnerships – among City agencies, businesses, institutions and non-profit organizations – in order make significant and lasting contributions to our city’s future success.

The Boston Indicators Report remains a vital measurement of our progress while also assessing the growing needs of our city. In partnership with the Boston Foundation and the Metropolitan Area Planning Council, we will continue to utilize the knowledge and experience of the thousands of leaders and innovators who have shared their data and input for this report, in order to make our “City on a Hill” shine even brighter.

Sincerely,

Thomas M. Menino  
Mayor of Boston
Dear Members of the Greater Boston Community:

The release of the 4th biennial Summary Report of the Boston Indicators Project is a good time to reflect on this remarkable civic effort, and on the generous contribution of time and expertise of thousands of Greater Bostonians that made it possible.

Spawned more than a decade ago in a conversation about measures of sustainability between then Vice President Al Gore and then Chief of Boston’s Environmental Services Cabinet Cathleen Douglas Stone, the Boston Indicators Project today is an award-winning tool reshaping civic dialogue locally while informing similar efforts worldwide.

This report brings that founding conversation full circle. It highlights the global forces buffeting the region, of which the most pressing is climate change, emphasizes Greater Boston’s extraordinary history as the birthplace of a revolution in every century, and calls on the region to make its revolutionary mark once again.

Looking back, I am struck by the degree to which these reports—by synthesizing local and regional data, research, and expertise—have lifted the quality of public discourse by creating a shared picture of current trends. In that sense, they have made a coordinated response more likely than seemed possible when the Citistates Group characterized the region as “lacking the collaborative gene” just a few years ago.

Looking ahead, the “revolution” called for in this report is underway. Boston and Massachusetts, under the forward-looking leadership of Mayor Thomas M. Menino and Governor Deval Patrick, are navigating the 21st century as global groundbreakers. And despite fiercely independent municipalities, the region boasts a new 25-year plan for the future, new “smart growth” zoning tools, new civic mechanisms, and younger, more diverse leaders bringing fresh ideas and vitality to the civic landscape.

The Boston Indicators Project is honored to have had the City of Boston and its Mayor Thomas M. Menino and the Metropolitan Area Planning Council and its staff as partners. And we are proud to have released its reports at dynamic Boston College Citizen Seminars, to have drawn together stakeholders and experts, and to have co-convened the John LaWare Leadership Forum as a way to foster a shared civic agenda.

This is a remarkable and challenging time, even for a city and region with a long and illustrious history. And yet, as this report illustrates, there is history yet to be made. I am hopeful that this report will help catalyze the region’s vast capacity for leadership and innovation, and that in two year’s time, we will look back on a list of achievements barely imaginable today.

Sincerely,

Paul S. Grogan
President and CEO
The Boston Foundation
About the Boston Indicators Project and the Boston Foundation

The Boston Foundation, Greater Boston’s community foundation—grantmaker, partner in philanthropy, key convener, and civic leader—coordinates the Boston Indicators Project in partnership with the City of Boston and the Metropolitan Area Planning Council. The Project relies on the expertise of hundreds of stakeholders gathered in multiple convenings to frame its conclusions, and draws data from the wealth of information and research generated by the region’s excellent public agencies, civic institutions, think tanks, and community-based organizations. The Boston Foundation will release a biennial report, with supplemental updates and outreach, through the year 2030, Boston’s 400th anniversary.

The Boston Indicators Project offers new ways to understand Boston and its neighborhoods in a regional context. It aims to democratize access to information, foster informed public discourse, track progress on shared civic goals, and report on change in 10 sectors: Civic Vitality, Cultural Life and the Arts, the Economy, Education, the Environment, Health, Housing, Public Safety, Technology, and Transportation.

Through its ongoing interactions with the broad civic community, the Project also works to develop a shared Civic Agenda reflecting the perspectives of thousands of participants over the life the project—from school children and engaged residents to academic and community-based experts to public officials and policymakers. Expressed for the first time in the 2002-2004 Indicators Report, the Emerging Civic Agenda informed the development of the John LaWare Leadership Forum, launched in 2005, which convenes Greater Boston’s business and civic leaders to focus on and respond to regional competitiveness issues. The Project also sponsors seminars to bring people together across the city and region, with an emphasis on new and emerging leaders.

The Project’s first report, The Wisdom of Our Choices, was released in 2000. The second report, Creativity and Innovation: A Bridge to the Future, was released in early 2003, along with the launch of the Project’s interactive website, which received the International Tech Museum Award that year for using technology to further equality. The third report, Thinking Globally/Acting Locally: A Regional Wake-Up Call, was released in 2005, with an enhanced website. This report, A Time Like No Other: Charting the Course of the Next Revolution, marks the 10-year anniversary of the Project and introduces, in partnership with the Metropolitan Area Planning Council, a new data-rich online mapping website www.MetroBostonDataCommon.org

All Boston Indicators Project reports are available online at www.bostonindicators.org. The website provides sector highlights, indicators with data available for download, and exciting features such as the Hub of Innovation, a Cultural Resources Survey, Links & Resources and a Data Portal leading to other data-rich sites. New research from area and national sources is posted on a regular basis.

Each biennial Boston Indicators Report has been released at a Boston College Citizen Seminar. The Seminars, since their inception in 1954, continue to bring together leaders from academia, business, government, labor and nonprofits for the purpose of discussing and debating some of the pressing issues facing the City of Boston and the region in which it is located.
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**17th Century: A Revolutionary Vision**
The founding identity of the Massachusetts colony in 1630 was, in the words of its first governor John Winthrop, “as a city on a hill… We shall be made a story and a by-word through the world….” The colonists claimed the land of the Massachusetts tribe, who had been decimated by disease following contact with traders. Their land extended from Plymouth to the Merrimack River, and included the Neponset, Charles, and Concord River basins. For almost four centuries, this region—Greater Boston—has fulfilled Winthrop’s prophetic vision for an outsized role in world events.

**18th Century: The American Revolution**
From 1760, when James Otis argued against the writs of assistance, and, later, against “taxation without representation,” to Sam Adams’ protests, which led to the 1773 Boston Tea Party, to the “shot heard around the world” in Lexington, and Charlestown’s Battle of Bunker Hill, Greater Boston was the heart of the American revolution. After the new nation’s founding, Quincy native John Adams wrote the Commonwealth of Massachusetts’ s Constitution, the oldest Constitution still in use and a model for the nation’s.

**19th Century: America’s Industrial Revolution**
Britain’s Industrial Revolution leapfrogged the Atlantic in the person of Samuel Slater, an immigrant to Pawtucket, Rhode Island, who built a water-powered mill for spinning cotton yarn. Westboro native Eli Whitney then invented the cotton gin, automating the separation of cottonseeds from fiber (strengthening the hold of slavery in the South). By 1850, Boston merchant Francis Cabot Lowell established mills in Waltham, and founded the “mill city” of Lowell, where canals powered waterwheels in 40 buildings with 10,000 looms operated by waves of immigrants. By the end of the century, Boston factories turned out textiles, shoes, furniture, and clothing.

**20th Century: The Information Age**
Following the loss of its major industries to the low-cost South, Greater Boston transitioned to become, in the run up to and after World War II, a leader in high-tech defense systems based on early computers and the software to run them. America’s great science universities—MIT and Stanford—then spawned a new generation of innovators and a new knowledge economy, with high-tech clusters of research and development along Route 128 on the East Coast and in Silicon Valley on the West. The Internet and the World Wide Web boosted these regions into global leadership roles. Once again, immigrants augmented the region’s innovative capacity as well as its labor force.
The Boston Indicators Project, initiated just over 10 years ago, issued its first report in 2000 with the goal of tracking incremental progress through 2030, Boston’s 400th anniversary. At the time, there was little sense that Boston was about to enter a tumultuous new century. The city was at a century highpoint—a global center of the red-hot high tech boom.

The first report, *The Wisdom of Our Choices: Measures of Progress, Change and Sustainability*, expressed a framework of indicators and measures identified through a rigorous process involving more than 300 experts and stakeholders. Among its findings, the report noted that the booming knowledge economy was separating the economic fates of those with and without a good education.

The second report, *Creativity and Innovation: A Bridge to the Future*, covered 2001 and 2002, the years following the dot com bust, 9/11 and the 2001 recession. It highlighted Boston’s institutional, physical and cultural assets, but noted as a trend to watch the shift of young people away from Boston, Greater Boston and Massachusetts to lower-cost and warmer US regions, even during the boom years of the late 1990s, due to high housing costs and other factors.

As change accelerated, the next biennial report, *Thinking Globally, Acting Locally: A Regional Wake Up-Call*, covering 2003 and 2004, noted that the region was suddenly competing for jobs and talent not only with other US regions, but with China, India, and other emerging economies. As workers, jobs, and even corporate headquarters exited the region for greater opportunity or lower costs, the report called for a coherent, collaborative response. To that end, it issued an Emerging Civic Agenda that reflected a building consensus and the confluence of local and regional research findings.

That report sparked a series of civic agenda setting conversations that, in turn, contributed to the creation of a new civic mechanism, the John LaWare Leadership Forum, named in honor of an exemplary civic leader. Co-convened by Federal Reserve Bank of Boston President and CEO Cathy Minehan, Boston Foundation President and CEO Paul S. Grogan, and Sovereign Bank New England Chair John Hamill, the Forum regularly brings together civic and business leaders to review key trends and challenges, identify major initiatives underway to address them, and fill gaps, with a focus on the region’s “pipeline” of jobs, talent and education, housing, and new leadership.

This fourth biennial report covers 2005 and 2006, during which the local and regional economy strengthened measurably, with remarkable progress on the civic agenda set forth in 2004, as detailed later.
However, it has become clear over four biennial reporting periods that instead of tracking incremental progress, the Boston Indicators Project is measuring the local and regional impact of global transformation and chronicling change during one of the volatile periods in human history.

The early 21st century is characterized by the convergence of two enormous cycles of history. The first is the economic pattern of Western exploration and expansion, in place for 500 years, which now is shifting into a new global mosaic with the resurgence of China, India, Brazil, and other formerly colonized nations. The second is the beginning of the end of a 200-year cycle that began with industrialization and expanded rapidly with the extraction of fossil fuels, spurring unprecedented population growth and material consumption and reaching its environmental limit with documented global climate change.

Greater Boston finds itself at the vortex of global change as these two great cycles converge, with effects that are registering on the measures created by the Boston Indicators Project. A global center of innovation and education, a knowledge economy whose industries are squarely in the sights of global competitors, a coastal region at risk of inundation, and an ethnically diverse region growing only through immigration, the “City on a Hill” has as large a stake in the outcome of these global trends as any place on Earth—and as great a contribution to make in addressing them.

Indeed, with innovation a part of the region’s civic DNA, a “revolution” is already underway. MIT is innovating renewable sources of energy and energy-efficient products. Small businesses are developing breakthrough technologies in robotics, telecommunications, and ocean observation. Top educators are advancing a revolution in early education, science and math, flexible school structures, and teacher quality. Policy makers are grappling with the nation’s first universal health insurance mandate. Researchers are inventing the next wave of medicines and building materials. And artists and immigrants are reinventing local culture.

The good news in this report is that despite often daunting challenges, the “City on a Hill” has turned a difficult corner with greater consensus and cohesion than most observers would have imagined possible just two years ago. In confronting its own challenges by tapping its potential for collaboration, efficiency and innovation, Greater Boston is beginning to generate solutions to the world’s great challenges as well. If successful, these breakthroughs—both high and low tech—will spur a new wave of job growth and make the region a powerful magnet for the world’s most creative talent. However, in order to succeed, Bostonians must be vigilant to the huge global forces that face every region, and realize that in order to retain its historic role in the nation and the world, Greater Boston’s communities must work together as never before.

In this time like no other, Bostonians are being called once again to make their revolutionary mark.
Boston is molting. Known for its heritage but staking a claim on the future, the city today is a study in contrasts. With great and growing economic and cultural diversity and a range of physical voids waiting to be filled, Boston reflects a disjuncture between struggle and opportunity, old ways of living and working and new. At the same time, it is emerging as the even more dynamic capital of New England.

CELEBRATION

The Completion of Mega-Projects: The Big Dig finally opened, delineated at ground level by the Rose Fitzgerald Kennedy Greenway and construction on two of three parks. Logan Airport opened a new runway after 30 years of controversy with restrictions on its use.

Educational Achievement and Ferment: The Boston Public Schools received the prestigious national Broad Prize for exemplary performance among school systems in the US, reflecting major improvements in its infrastructure, recruiting and training of new teachers, new early education slots and Pilot Schools, and improved 10th grade MCAS scores, particularly for African American and Latino students.

Breakthroughs in Diverse Leadership: Sam Yoon was elected to the City Council in 2005—Boston’s first Asian American elected official. Deval Patrick was elected Governor of Massachusetts in 2006 to become the second African American governor in US history. Martha Coakley was elected to be Massachusetts Attorney General, the first woman. And both MIT and Harvard are now led by women.

Exceeding Housing Goals: Mayor Thomas M. Menino’s Leading the Way II campaign exceeded its production target of 10,000 new units in four years, with 7,900 private, market-rate units and permitting for 2,111 affordable units.

Population Growth: Challenged by the Boston officials, the US Census discovered a statistical error leading to a revision upward: Boston’s population did not decline by 5.1% between 2000 and 2005 but grew by 1.2%, or to 596,538, a difference of more than 37,000.

Cultural Revival: The new Institute of Contemporary Art overlooking Boston Harbor opened to broad acclaim. A major renovation of the Museum of Fine Arts, a host of ethnic film festivals, and the Legislature’s passage of the Act for Cultural Facilities Renovation are all enlivening Boston’s cultural scene.

Nonprofit Strength: The Massachusetts Nonprofit Network became the first umbrella for nonprofits statewide. Volunteer participation increased at Boston Cares and Citizen Schools, the venerable Women’s Union and Critendon-Hastings House merged, Nuestra Comunidad kept its Culinary Ventures incubator open, and Adaptive Environments and Project Hope christened new facilities.
Facelift: Boston’s built environment is turning its face to the future with revitalization of Dudley Square’s historic buildings, new lofts in SOWA (South of Washington Street), renovation of Emerson’s downtown campus, new high rise condos and hotels dotting the skyline, and ancient T stations emerging from scaffolding to reveal sleek 21st century design.

Green and Greener. Boston was the first major US city to adopt a “green” zoning code for large projects. The 500-unit Olmsted Green project plans “rain gardens” to allow rainwater to re-enter the ground. The Children’s Museum expansion features green roofs. The Boston Convention and Exhibition Center, Hynes Convention Center and World Trade Center added recycling programs. And the former Maverick Housing Development in East Boston is now the “green” Maverick Landing.

Waterfront Pleasures: A 120-acre park on Spectacle Island opened with a new pier, marina, visitor center, two public beaches and five miles of walking trails. Nearly 38 miles of the Harborwalk are completed. The Department of Conservation and Recreation opened a new park in Dorchester connecting the Pope John Paul II Park with the Neponset River Greenway. And the Big Dig mitigation agreement resulted in 40 acres of parkland along the Charles River and the 20-acre Bremen Street Park in East Boston.

Tackling Health Disparities. In response to the Mayor’s Task Force to Eliminate Health Disparities, a comprehensive 2005 analysis and blueprint, Partners HealthCare pledged $3 million to launch the Disparities Solutions Center at MGH and the Bay State Banner launched a monthly supplement entitled Be Healthy. In the summer of 2006, more than 1,700 Bostonians participated in walking groups.

Tourism and Conventions in Full Bloom: The Boston Convention Center hosted events in 2006 that drew 369,907 attendees, up from 195,223 in 2005. The Center now generates more than $300 million in economic impact.

LOSS

Youth Homicides. In 2006, 74 people died of homicide in Boston, one less than in 2005, a 10-year record. While this is half the loss in the early 1990s, it includes a disproportionate number of youth homicides concentrated in a relatively small area, with escalating fear and the loss of a sense of safety among residents.

Catholic Churches. While the original announcement of the closure of 83 Catholic parish churches in 2004 was met with fierce resistance, the final count of 62 parish closings, involving 41 church buildings upended many Bostonians’ sense of neighborhood connections and spiritual roots while creating opportunities for other churches and for new housing.

A Big Dig Tragedy occurred with a collapsed ceiling, a tragic death, and a loss of confidence in corporate and government oversight.

Out-Migration. Young workers and families continue to decamp in search of low-cost, high-opportunity regions. Between 2000 and 2005, Greater Boston is estimated by the Census Bureau to have declined by 89,500 residents between the ages of 24 and 35. Suffolk County is estimated to have to have lost 12,600 residents in that age group between just 2003 and 2005.
The End of an Era. Boston continued to lose corporate icons: Gillette; Filene’s after a century as a retail giant; The Atlantic Monthly, which anchored Boston’s literacy scene since 1857, moved to Washington DC; and Macomber Builders, the venerable construction company that built 20th century landmarks such as Faneuil Hall Marketplace.

Newspaper Advertising, Circulation, and News. The loss of commercial anchors, combined with the rise of web-based communications and media, led to a sharp decline in readership and ad revenues for the region’s major newspapers and, in turn, to cuts and rumors of sales. Both the Boston Globe and Boston Herald decreased their news staff.

PROMISE

Campus Building Boom: Eight colleges and universities will add two dozen buildings to Boston. Harvard plans a decades-long 215-acre expansion in Allston. MIT plans a $210 million cancer center. Northeastern, Suffolk, BU, Emerson and Berklee are planning new high rise dormitories, lab space, and theaters. UMass-Boston has a million dollars in state funding to plan the Columbia Point peninsula. Boston College has embarked on a planning process that will result in a major reconfiguration of its Brighton campus.

Re-Imagination: A new Kroc Community Center is rising on Dudley Street. The Boston Redevelopment Authority is re-imagining Boston’s skyline, waterfront, and Downtown. The old Filene’s building, phoenix-like, will rise as a 1.2 million square foot mixed-use high rise dwarfed by a planned 1,000-foot-high rise spire in Winthrop Square. BU and the Red Sox are teaming up with a developer to create a $450 million mixed-use development over the Turnpike.

New transit-oriented development is underway. In Boston, the Center for Urban and Regional Policy at Northeastern University identified 46 planned housing and mixed-use development projects within a quarter mile of public transit. However, with MBTA funding headaches, plans are moving slowly on rail transit improvements, such as the Urban Ring. Enhancement of the Indigo Line continues.

Expanding the Port of Boston: MassPort is drawing up plans to expand Boston’s cargo and cruise ship operations through 2025—with a 6-9% increase each of the past three years—growing from about 200,000 passengers in 2006 to a projected 500,000.

Amenities planned for the Greenway. The Boston Harbor Island Alliance and the National Park Service hope to build a harbor pavilion, and a new Boston Museum is planned, as well as an Arts and Culture Center, Public Market, and new YMCA.

Innovative WiFi infrastructure. Boston’s WiFi network, dubbed Openairboston.net, has begun to raise the $16-$20 million required to create ubiquitous wireless Internet access, with vendors selling low-cost Internet on an innovative nonprofit platform. A pilot was launched in Grove Hall, Dorchester.
## Rankings: Where do Boston, MetroBoston and the Commonwealth Stand?

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<td>2005</td>
<td>Massachusetts ranks 2nd</td>
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<td>2006</td>
<td>Boston ranks 36th worldwide, 3rd among US cities, up from 9th in 2004</td>
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<td>Economic Climate</td>
<td>Best Places For Business</td>
<td>2006</td>
<td>MetroBoston ranks 39th among 62 large metro areas</td>
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<td>Best Cities for Entrepreneurs</td>
<td>2006</td>
<td>Massachusetts ranks 28th, Boston ranks 2nd in the Northeast</td>
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<td>2006</td>
<td>Massachusetts ranks 1st, for 3rd year in a row</td>
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<td>Environmental Sustainability</td>
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<td>Health</td>
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<td>Boston ranks 7th, up from 9th in 2005</td>
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Massachusetts ranks 2nd (behind California) in the number of Small Business Innovation Research and Small Business Technology Transfer awards, and 1st on a per capita basis.

This global study assesses 39 quality-of-life determinants including consumer goods, economic environment, housing, medical and health considerations, natural environment, political and social environment, public services and transportation, recreation, schools and education, and social/cultural environment.

Annual ranking by educational attainment, business costs, cost of living, crime rate, culture and leisure, income and job growth, and net migration. Massachusetts ranks low on measures of business costs and high on quality of life measures. Metro Boston ranks low on business costs, cost of living, and net migration, near the top in culture, leisure, and number of colleges.

An annual ranking of states and large and small metro areas. Criteria include small business formation and growth. Among major northeastern metros, Boston ranked 2nd, behind Washington, DC.

More than three dozen measures rank states in: government and fiscal policy; security (crime); infrastructure; human resources; technology; business incubation; openness to commerce; and environmental policy. Competitiveness is defined as “policies and conditions that ensure and sustain a higher level of per capital income and continued growth.” Massachusetts ranks 1st in human resources and technology, low (49th) in infrastructure.

An index of cities’ ability to adapt to a limit on fossil fuels, including density, public transportation, local food, renewable energy, green buildings and urban greening. Boston scored high on land use and public transport, low in traffic congestion, water quality, and risk of natural disasters.

A 20-measures assessment of health and health systems. Massachusetts has seen most improvement in infant mortality since 1990, and from 2005-2006, in reduction in the uninsured. Among NE states, MA scored lower than VT, NH, and CT, higher than RI and ME.

This index takes into account job opportunities, job quality and workplace fairness to measure the favorably of a state for workers. Massachusetts ranks 10th on workplace fairness, low on job opportunities (25th) and job quality (27th). MA ranked lower than other NE states, higher than NY.
Massachusetts 2005-2006: Turning the Corner

Following almost a half decade during which Massachusetts lagged the nation in recovery from the recession of 2001, the Bay State’s economy began to strengthen in the second half of 2005, and by the third quarter of 2006, the rate of growth of the Massachusetts economy exceeded that of the nation.

- Between 2004 and the end of 2006, Massachusetts added 57,728 jobs, and Boston added 15,727.
- Tourism rebounded, with visitors to Greater Boston increasing by 19% since 2001 overall and by 8% from 2004 to 2005. From 2004 to the 3rd quarter of 2006, jobs in the leisure and hospitality sector grew 5% in Boston and 11% in Massachusetts.
- State tax revenues increased by 7.1% in FY2005, and 8.2% FY2006.
- Vacant lab space dropped by almost 12% in the second two quarters of 2006 in Greater Boston, and particularly in Cambridge, the region’s lab and research leader. Cambridge’s vacancy rate fell to below 10% overall and in Kendall Square, lab vacancy rates fell to 6.3% from 17% in early 2006.
- Massachusetts’ exports set a record of almost $18 billion in the first three quarters of 2006, 9% higher than the same period in 2005, which had also set a record, according to the Boston Globe.
- Massachusetts’ inventors erased a two-year decline in the number of patents, with a 29% increase—4,011—in new patents filed in 2006.
- Cargo volumes in the Port of Boston the first half of 2005 were 11% higher than the record set in 2004 record—with 91,000 standard containers moving through Boston in the first half of 2005.
- Massachusetts led the nation in venture capital investment in life sciences companies, particularly for medical device companies, in the first nine months of 2006. These investments totaled $507 million, a 55% increase over the $327 million invested in the comparable nine months a year before.
- The Commonwealth Housing Task Force forged and helped to pass consensus housing legislation to encourage smart growth development in city and town centers and near transit, resulting in passage of new 40R and 40S zoning overlay districts by 12 cities and towns, with 30 more under consideration.
- The Bay State successfully wooed a major firm to Fort Devens through the collaborative efforts of its Business Resources Team—a one-stop shop for business location, expansion and permitting—in partnership with the University of Massachusetts and MassDevelopment.
- UMass Lowell received a $35 million investment in its nanotech research center to serve the region’s 175 nanotech firms.
TRIM TAB

Buckminster (‘Bucky’) Fuller, the renowned 20th century inventor and futurist with deep roots in New England (his great aunt was the author and early feminist Margaret Fuller), is buried in Mount Auburn Cemetery. His tombstone reads simply: “Call me Trim Tab.”

A trim tab is a small device on a ship’s main rudder that must be turned before engaging the large rudder to change course safely. Fuller saw trim tabs as a symbol for the small but strategic acts that change the course of world events.

Boston and the Commonwealth of Massachusetts have acted as trim tabs to the world from the moment of their founding in 1630. Greater Boston's outsized influence on world events is incontrovertible.

Today, with the limits of fossil-fueled industrialization becoming apparent just as global population accelerates, Greater Boston is one of the few places with the capacity to shift direction swiftly enough to model changes that must occur to avert the worst effects of global warming. With its innovative capacity, compact size, racial/ethnic and linguistic diversity, and dense networks of relationship, it has what it takes to chart the transition from fossil-fuel-dependency to a sustainable regional economy on a scale that would be akin to ‘turning an ocean liner.’

A land-based version of this concept is found in the revelation of Archimedes, the greatest scientist and mathematician of antiquity, who said: “Give me a place to stand and a lever long enough and I can move the world.” Greater Boston is an excellent place to stand to achieve the necessary understanding, collaboration, efficiency and innovation to jumpstart America’s transition to a carbon-free economy.

Experts tell us that we have between 5 and 10 years in which to act.

If Greater Boston can fulfill its potential for collaboration, efficiency, and innovation and model a rapid transition to sustainable growth, it will become a world-class center and magnet for talent—growing and attracting the scientists, inventors, entrepreneurs, skilled workers, architects, artists, venture capitalists, and engaged residents necessary to function as a constructive trim tab in this period of global transformation—this time like no other.
No Ordinary Time

A “Bottleneck for Humanity”

“I’m not thinking about today, I’m thinking about the future for my grandkids and children of the future: how we can sustain ourselves during this change in our atmosphere.”

—Mayor Thomas M. Menino at the release of the City of Boston’s sweeping plan to reduce greenhouse gas emissions by 2050

“Once again, Boston is firing the shot heard round the world.”

—Massachusetts Congressman Edward Markey, Chair, House Select Committee on Climate Change

An assessment of change and progress in Boston—hub of the nation’s fifth largest metropolitan area and a world center of education and innovation—must take place in a global context. A long view of key global trends and major external forces will help to enhance the region’s capacity to plan, innovate, and compete.

These long-term trends are sobering. It appears that the world community has entered a rare time, referred to by evolutionary biologists as “punctuated disequilibrium,” when business as usual gives way to sudden disjuncture. Most scientists believe that the next half century will test humanity’s singular ingenuity and that current trends, if not abated, will negatively and irrevocably alter life on Earth as it has been lived for thousands of years. Harvard biologist E. O. Wilson calls the coming decades a “bottleneck for humanity.”

Humanity is growing at an unprecedented pace, particularly in less developed nations that are modernizing rapidly and shifting the center of economic gravity eastward for the first time in 500 years. Economic globalization is also intensifying the competition for talent, jobs, and natural resources. And after 150 years, fossil-fueled industrialization is reaching its environmental limit in documented global warming.

Whether expressed as a tightening bottleneck, a sudden collapse, or a successful transition to an environmentally sustainable global economy, the convergence of these trends is likely to be highly disruptive.

MIT president Susan Hockfield and other experts have said that the world community has less than a decade to put in place policies and practices that may forestall the most catastrophic effects of global climate change. Averting the worse-case scenario will require unprecedented levels of global collaboration, the efficient use of resources, and innovation.

In this extraordinary period of change, one thing is certain. With its unparalleled innovative capacity, Greater Boston will be pushed or pulled to embrace once again the region’s historic role as the “City on a Hill.” What follows are brief summaries of global trends that are already buffeting Greater Boston.
GLOBAL POPULATION GROWTH

“The current rate of growth is unprecedented for humanity.”

—The United Nations

Since the 1980s, the populations of both Boston and Massachusetts have increased only due to an influx of foreign-born immigrants. In 1980, one in six Bostonians was foreign born. By 2005, that figure had increased to nearly one in three. Local immigration patterns reflect global trends, and today, with more than 140 languages spoken in the region, Bostonians come from every corner of the Earth.

Globally, the current pace of global population growth is unprecedented, and reflects the culmination of 200 years of industrialization. After about 40,000 years of incremental increase, humanity numbered just one billion in 1800. By 1900, it had swelled to 1.6 billion. Over the course of the 20th century, humanity quadrupled, reaching 6.5 billion in 2005. World population is expected to reach about 9 billion after 2050 and to hover at that level for the remainder of the 21st century. Today, however, humanity is increasing at the rate of 1.5 million people every week.

The United Nations projects that between 1950 and 2050:

■ Developing nations with low per capita wealth will grow rapidly. Africa’s population is projected to increase from 9% of global population in 1950 to 21% in 2050, while Europe and the Former Soviet Union are projected to shrink from 22% in 1950 to just 7% in 2050.

■ Industrialized nations with high per capita wealth and low birth rates are projected to net only 350 million additional residents, with fewer young workers supporting more retirees.

■ The US is alone among industrialized nations with moderate projected growth due to immigration, but its share will decline from 6% in 1950 to 4.5% in 2050, despite a projected increase to 420 million people.

■ By 2050, Asia’s population is expected to total 5.3 billion, or 57% of global population. Japan is in negative growth, and China, with its one-child policy, is due to multiply only 2.5 times. In contrast, India is projected to quadruple between 1950 and 2050, and to overtake China as the world’s most populous nation by 2020.

■ Muslims are expected to double their share of global population from less than 15% to almost 30%. Indonesians are expected to increase more than 4 times, Pakistanis 7 1/2 times, and Saudi Arabians nearly 13 times.

■ North, Central, and South America are expected to increase to 1.2 billion by 2050, about the size of China or India today, and constitute 13% of global population.

Global demographic forces are gathering strength, as evidenced in the intensifying scramble for talent, jobs, energy, and natural resources, increasing levels of migration, and mounting pressure on ecological systems.
GLOBAL ECONOMIC COMPETITIVENESS

The World Wide Web created a global telecommunications architecture that spawned a “spatial revolution” of decentralized business activity. Corporations doing business in one place and time zone just a few years ago are now transnational, with 24/7 technology-enabled supply and distribution networks that are dispersing jobs as well as innovative capacity.

Global economic patterns in place for centuries are beginning to shift eastward. Boston Globe columnist H.D.S. Greenaway returned from the 2007 Davos world economic forum reporting talk of an “Asian renaissance” and “Asian lands coming into their own for the first time since the 15th century, when one-half of the world’s industrial production came from the East.”

According to a 2006 report by the US Council on Competitiveness for the Department of Commerce, “great ideas are now more likely to be developed and commercialized in countries outside the US:”

- “Foreign-owned companies and foreign-born inventors account for nearly half of all US patents;
- “In 2004, China overtook the US to become the world’s leading exporter of information and communications technology;
- “Only six of the world’s 25 most competitive information technology companies are based in the US—14 are based in Asia;
- “Sweden, Finland, Israel, Japan, and South Korea each spend more on R&D as a share of GDP than the US.”

Asia is barreling into place as the giant of the 21st century. With 60% of the world’s population and the second and fourth largest economies, Asia’s resurgence is shifting the economic center of gravity. According to the China News Service, China’s economy was the world’s largest for 18 of the past 20 centuries, and is surging back. China doubled the size of its economy in five years to become the world’s fourth largest economy, after the US, Japan, and Germany, and is expected to move into third place in 2007. Meanwhile, Japan is increasing its share of the US automobile industry, while Boston’s early 20th century industries—shoes and textiles—have resurfaced in Vietnam, the world’s fastest growing economy.

The so-called “BRICs”—Brazil, Russia, India, and China—represent increasingly integrated new engines of global growth. Brazil, which is becoming energy independent through biofuel production, is the world’s largest agricultural exporter. Russia is the largest exporter of natural gas. India is ramping up its high-tech sectors. China and Brazil are collaborating on the development of information infrastructure, while China and India are partners in securing energy. All of the BRICs are running a trade surplus with the US.

With growing external competition and mounting fiscal challenges at home, the ground of the economic landscape is shifting, with uncertain results for Greater Boston.
SIGNS OF THE TIMES: THE ASIAN CONNECTION

- Korean American Sam Yoon was elected to an at-large seat on the Boston City Council in November 2005. Until then, Greater Boston’s leadership structures showed almost no outward sign that Asians are the fastest growing ethnic group in Massachusetts, that Bostonians reflect a great variety of Asian ethnicities, or that China is the world’s fastest growing economic powerhouse of increasing importance to the Commonwealth.

- South Korean and graduate of the John F. Kennedy School of Government at Harvard University Ban Ki-Moon became the United Nations’ first Asian Secretary General.

- The iconic Ritz-Carlton Hotel announced that it would be called the Taj Boston Hotel, reflecting new Indian ownership.

- UMass announced its new Confucius Institute sponsored by the Chinese Ministry of Education to promote Chinese language, history and culture. An annual conference, the US-China Business Forum, will bring together prominent business and political leaders from Massachusetts and China. The first was held in partnership with Tsinghua University and the Massachusetts Biotechnology Council.

- Harvard’s Kennedy School of Government set up an Executive Program for Indian Civil Servants for the Government of India.

- In October of 2006, Harvard launched the Harvard China Fund to complement its Yenching Institute. The new fund is a university-wide initiative to support research and teaching about China, “with the potential for a physical presence.” Its director explained that China is “perhaps the most dynamically changing place on Earth...” and that Harvard has a special responsibility to support research that “advances our collective understanding of China…and its distinctive contributions to the world that we will cohabit in the 21st century.”

- Global Massachusetts 2015 took a delegation to China in 2006 and Boston’s City-to-City Exchange Program has made plans to visit China in 2007.
GLOBAL ENERGY CONSUMPTION

“The only way we can ensure that America reduces its dependence on imports is by exploiting technology to make ourselves more energy efficient and to start moving away from fossil fuels.”
—Massachusetts Congressman Edward Markey, Chair, House Select Committee on Climate Change

Massachusetts’ great 19th century mill cities were water-powered. Later, the invention of steam engines, electricity, and diesel- and gas-powered combustion engines increased the world’s appetite for mobile, condensed energy such as coal, natural gas, and oil. Since 1950, petroleum, or oil, has been the fuel of choice for modern economies. With increased competition for fossil fuels dovetailing with concerns about global warming, however, a major energy reckoning seems close at hand.

- **With just 5% of the world’s population, the US consumes 25% of world energy resources—and depends increasingly on imports.** In 1975, the US was 35% dependent on foreign energy, but by 2005, that figure had increased to 60%. On a per capita basis, Americans consume energy at twice the rate of the Japanese and Germans—the next two largest economies. (California, however, has held per capita energy use constant for three decades while the US rate increased by 40%.)

- **US consumption and increased demand from China and India are projected to double global energy demand by 2030.** Asia, with 60% of the world’s population, consumes about 29% of energy resources today but is developing rapidly. China, the world’s largest nation, is due to surpass the US as the world’s largest energy consumer by 2009, but with more than four times the US population, the Chinese, per person, will consume about one-fourth the energy used by each American.

- **A spatial mismatch between energy sources and consumption is changing global economic patterns.** Imported oil alone accounted for 38%—$266 billion—of the US trade deficit, while *The Financial Times* reports that “petrodollars will probably provide all oil exporters with a…surplus of about $450 billion in 2006.”

- **New discoveries of oil and gas reserves are located, by and large, in fragile locales—deep water in the Gulf of Mexico, the Alaska wilderness, in shale and Canadian oil sands—requiring expensive and environmentally risky extraction methods that may gain traction as prices rise due to the peaking of readily available supplies.**

- **Increased competition for oil and natural gas may increase the demand for coal, the most polluting energy source, and for nuclear power, for which plant security and waste disposal issues in the US remain unresolved.** China and the US contain vast reserves of coal, with both set to build new “dirty technology” coal-powered plants that will undermine efforts to forestall global warming.

In light of these trends, New York Times columnist Thomas Friedman suggests that “green is the new red, white, and blue.”
Most industrialized nations responded to the 1973 OPEC Oil Embargo with higher fuel efficiency standards and renewable energy innovation. And by late 2006, 169 nations had signed the UN Kyoto Protocol, which then covered about 55% of global emissions. These commitments are beginning to pay off in energy independence and competitive advantage:

- **Japan's Toyota Motor Corporation passed General Motors Corporation as the world's No. 1 auto maker** in large part because of the popularity of its fuel efficient line of cars. Japan, the world's second largest economy, also consumes less energy per unit of output than any nation, and is is the world leader in solar energy innovation.

- **Brazil, 80% dependent on foreign energy in 1976, imports less than 10% of its energy today** by producing biodiesel and ethanol, and using flexible-fuel vehicles.

- **France is close to independence in electric power**, generating 76% of its energy from highly efficient nuclear plants that utilize state-of-the-art safety and waste-disposal technology, and 12% from hydro-electric power.

- **Denmark produces 20% of its electricity from wind power** and is taking a lead on sophisticated biomass fuel and fuel cell technology research.

- **Germany, Japan, and India are the world's largest producers of solar cells.** California ranks third in the world in solar energy production, behind Japan and Germany. Switzerland is the world's highest per capita user of solar energy, followed by Japan, Australia, Norway, Germany and Holland. In 2005, Japan set a target of 70,000 solar roofs to stimulate a mass market for solar technology.

- **China, which has not signed the Kyoto Accord, committed in 2006 to generating 10% of all of its energy from renewable sources by 2020.** It has built an Eco City of entirely self-contained ecological systems to innovate and test green energy technologies.

- **By 2010, 21% of the EU's electricity generation will come from renewable sources**, according to policies established in 2004.
GLOBAL WARMING

"...The time for initiating meaningful steps to curb climate-threatening carbon dioxide emissions is short...

We are probably only decades away, at best, from the point of no return.”

—Susan Hockfield, President of MIT

In 2005, Tufts and Boston University released the results of an EPA-funded study of the potential effects of global warming on Boston and 100 surrounding communities designed to inform national preparedness. The study projected that by 2100, heavy storms will drive seawater into downtown Boston and Cambridge, with coastal flooding from Rockport to Duxbury, while sickness and death from heat stroke will rise.

Since then, world scientists on the Intergovernmental Panel on Climate Change declared with 90% certainty that global warming is occurring and that it stems from human action. They projected global temperature increases between 3.5 and 7 degrees Fahrenheit and a sea level rise between 7 and 23 inches over the century, with severe storms and drought, the extinction of species and worldwide coastal flooding.

In a shift from the 2005 Boston study’s findings, however, scientists are concluding that the effects of global warming are not linear—getting progressively worse—but presage unpredictable feedback loops such as disruptions in the seasonal rhythms of flowers and their insect pollinators, the dissolving of tiny marine creatures’ shells due to ocean acidification, and the thawing of Arctic tundra containing millions of tons of trapped greenhouse gases.

Most scientists believe that keeping carbon dioxide in the atmosphere below its historic rate of 280 parts per million will avert the most catastrophic effects of global warming—a tipping point at which the Earth could become a different kind of planet within the theoretical lifetimes of all children alive today. The rate is about 380 parts per million today.

Limiting greenhouse gases will require unprecedented global and regional collaboration and innovation. The good news is that in 2006 several collaborative efforts on the global climate change front were announced:

- The EU, the US, China, India, Russia, Japan, and South Korea launched a partnership to explore the feasibility of commercializing fusion energy as a way to combat global warming. The $12.8 billion partnership, the ITER Project, is located in Southern France.
- The CEOs of some of America’s largest companies called on President Bush and Congress to prepare for a new cap-and-trade market in carbon emissions, and to issue consistent energy and emissions policies in preference to the current state-by-state, city-by-city approach.
- With Massachusetts a member, the Northeast’s Regional Greenhouse Gas Initiative will create the first US carbon cap-and-trade system.
Global Innovation

“Innovation emerges from a network of open-ended conversations across disciplines that are unpredictable and open to new ideas… Most innovation comes not from invention but from borrowing.”

—Richard K. Lester, Director, MIT Industrial Performance Center, Regional Innovation Summit

Technological innovation is both driving global economic restructuring and offering hope to efforts to address the world’s great challenges. However, there are trends that promise to be as important as any other in setting the pace of change and in shaping Greater Boston’s future:

- **Leapfrogging**: In a form of progress that benefited Massachusetts in the early Industrial Revolution, innovation today is “leapfrogging” from more to less developed regions that have less resistance from entrenched interests and less old infrastructure to be disposed of. For example, cell phone technology is more reliable in many Third World cities that never had sufficient land lines than in Boston, New York, or DC. Developing nations are also leapfrogging over centralized electric grids with appliances and systems that run on decentralized “micropower” such as free-standing solar energy. And because young people are more likely to diffuse innovations than older residents and make up a large percentage of developing nations’ populations, breakthroughs are increasingly likely to emerge from and take root in emerging economies.

- **Technology-Enabled Mass Collaboration**: With access to the World Wide Web invented by Tim Berners-Lee, now at MIT working on its sequel, colleagues, friends and family do not have to be physically present to contribute to a joint effort. Similarly, Wikipedia and the open source operating system Linux reflect technology-enabled mass collaboration. “Wiki” corporate models are also changing companies’ relationship to the concepts of location and employees, allowing Greater Boston to become a center of new “micro-headquarters.” By tapping diverse perspectives and enabling broad participation, mass collaboration also facilitates global problem-solving.

- **Systems Transformation and Innovation Eco-Systems**: Some argue that in the 21st century, innovation must transcend the invention of one new process or product and transform whole systems such as communications, transportation, and energy. This requires healthy eco-systems of relationship among people who—across projects and disciplines in corporations, universities, research institutes and government agencies—are able to create, adopt, adapt and diffuse new technologies. Such networks can be ad hoc, such as those in Kendall Square in Cambridge or Longwood Medical Center in Boston, or planned, such as the university-industry Centers of Excellence proposed by Global Massachusetts 2015. Similarly, China is building 150 “Science Cities,” each with a state-of-the-art university, 100,000 students and about 600,000 residents—the size of Boston. South Korea is building a world-class financial services hub. Spain is building a state-of-the-art biotech center for 1000 scientists in Barcelona.
Building the Infrastructure for Change: A New Spirit of Collaboration

“Every metropolitan area must periodically reinvent itself.”
—Barry Bluestone, The Boston Renaissance

The recession of 2001 and its aftermath marked the end of a long growth cycle described by Northeastern University economist and author Barry Bluestone as the “Boston Renaissance,” a 30-year cycle of growth that tracked Greater Boston’s rise from “veritable basket case” in 1970 to a world-class, high-tech powerhouse in 2000. That rise was powered by trends favorable to the region as it shifted from a manufacturing- to knowledge-based economy.

Along with the 2001 recession came widely bemoaned job loss, the sale or consolidation of iconic corporations, and the out-migration of talented young workers—a true reversal of fortune for a region that had generally had the wind at its back for decades, despite ups and downs.

Into 2005, Massachusetts lagged the rest of nation in recovery—with job and population losses that rivaled post-Katrina Louisiana and the collapse of the auto industry in Michigan. However, the prospect of a vicious economic cycle brought with it a sense of urgency and a rare openness to new ways of working. There are numerous signs that leaders labeled as “lacking the collaborative gene” just two years ago have begun to build a more resilient and muscular civic culture and economy to support what is arguably the region’s greatest asset: its capacity for reinvention.

The Federal Reserve Bank of Boston, the Boston Foundation, and the Chair of Sovereign Bank New England convened the John LaWare Leadership Forum, to present data on key trends to civic and business leaders, and identify initiatives to improve the “pipeline” of jobs, talent and education, housing, and new leadership. The Boston College Citizen Seminars continued to provide a venue for new civic initiatives. The Boston Chamber of Commerce collaborated with other business groups to develop a Common Business Agenda on key public policy issues—from education to housing. Mass Insight mobilized industry and academic leaders to create Global Massachusetts 2015, a comprehensive, sector-based approach to making Massachusetts a world leader in key sectors of the innovation economy.

The Massachusetts Business Roundtable, MIT, and the US Council on Competitiveness sponsored a Regional Innovation Summit to stimulate regional collaboration and Massachusetts created a one-stop-shop across its public agencies and external partners—the Business Resource Team—to respond rapidly to companies seeking to expand or do business in the Bay State. The Boston History and Innovation Collaborative initiated Innovate Boston! to strengthen Boston’s historic capacity for innovation and renewal.

Specific sectors created new collaborative mechanisms, such as the Technology Leadership Council, a merger of two former organizations that now boasts 500 technology companies. A coalition including the Boston
Foundation, UMass-Boston, Harvard University and the Massachusetts Technology Collaborative founded the **Life Sciences Collaborative** to strengthen the region’s industry/research “super cluster.” A new state **Cultural Facilities Fund** was created to boost investment in arts and cultural assets.

**New zoning overlay districts**—40R and 40S—encouraged by the ongoing work of the **Commonwealth Housing Task Force**, encouraged smart growth housing development. The Massachusetts Legislature passed **groundbreaking health care legislation** as industry representatives, advocates, public officials and business groups collaborated in an effort to cover all state residents with insurance. Boston Mayor Thomas M. Menino’s **Task Force on Health Disparities** partnered with MGH and others to develop an action plan to improve health outcomes. The Mayor set forth a breakthrough **Green Building Code** based on recommendations from his **Green Building Roundtable** of environmentalists and developers. The Mayor’s **Smart from the Start Initiative** for 0-5 year olds brought together experts and stakeholders from the worlds of education, health, and child development to develop strategies to boost the prospects of the city’s youngest low-income children.

The Boston Municipal Research Bureau, the Metropolitan Area Planning Council, the Massachusetts Municipal Association, Sovereign Bank, Northeastern University’s Center for Urban and Regional Policy, the Rappaport Institute at Harvard’s Kennedy School of Government, and the Massachusetts Taxpayers Association worked together and separately on analyses that identified **municipal finances** as a major challenge to education, transportation and housing efforts. The Boston Foundation funded research leading to publication of **Boston Bound**, which called for the reform of **Home Rule**.

The Boston Foundation, City of Boston and many others partnered on the **SkillWorks** workforce initiative to create ladders of opportunity for incumbent workers through training partnerships with employers. A partnership led by ¿Oiste?, MassVOTE and Suffolk University’s Department of Government launched the **Diversity in Civic Leadership Initiative** to encourage and prepare leaders of color for more prominent roles in civic and public life. The nonprofit sector created an umbrella, the **Massachusetts Nonprofit Network** to strengthen the voice and impact of the sector. The United Way of Massachusetts Bay merged with Merrimack Valley’s and launched the **Blueprint for Change** to respond to rising income inequality.

The **Black Ministerial Alliance** and **Ten Point Coalition** renewed their commitment, along with public safety officials and community groups, to address rising rates of youth violence. The **Leadership Exchange**, coordinated by LeadBoston, brought together leadership programs and alumni from such programs as UMass-Boston’s Center of Collaborative Leadership’s Emerging Leaders Program, the Partnership, and Boston Cares. And participants in MassInc’s **Civic Roundtable** initiated plans for a **Civic Summit**.

And an unprecedented grassroots coalition came together to support the candidacy of now-Governor Deval Patrick.

These collaborative initiatives—and more—reflect a new awareness that the region’s challenges are too great for any one institution, corporation, or level of government to tackle on its own.
Economists and environmentalists have come to the same conclusion: in this volatile century, regions are the ideal geographical unit from which to respond to intensifying global forces. Regions that anticipate change with resilience and innovation will be prepared to compete in the global economy’s fast-lane—or survive for a time in its breakdown lane—while those less prepared are likely to suffer significant negative consequences.

As networks of knowledge and trust, they offer the nearness factor. In periods of shock—whether economic, environmental, epidemic, or terrorist—they offer rapid response and partial self-reliance. To global competitiveness, they offer their large scale. Indeed, the US Council on Competitiveness has concluded that “regions are the building blocks of national innovation capacity” and “the key to sustainable prosperity” for the entire nation:

“Paradoxically, even as innovation has globalized, the role of regions as the critical nexus where workers, companies, universities, research institutions and government interface most directly has increased… Regions—as opposed to individual cities and towns—offer the diversity of people, land types, and services to support a variety of businesses…specialized infrastructure, educational institutions, and workforce.”

However, the Competitiveness Council cites “a fundamental problem” that confronts many US regions. Namely: “They aren’t acting as regions.” Indeed, Greater Boston is a famously fractious collection of fiercely independent municipalities whose boundaries were drawn almost 400 years ago.

If ever there was a time for regional collaboration, it is now.

As the Earth warms and the global economy shifts from Industrial-Age centralization, standardization, and maximization to dispersed 24/7 supply and distribution networks, Greater Boston is increasingly reliant on cyberspace for its communications and on global sources of energy, workers, and manufacturing capacity. As a result, it is also increasingly vulnerable to external shocks.

Regionalism creates a countervailing weight to this dominant trend. A well functioning Greater Boston—strongly connected to the larger region—would support a wide variety of skills and a high level of innovative capacity, a breadth of diverse residents, efficient and redundant systems of transportation and communication, a range of housing options, local farms, fisheries and energy sources, environmental and health protections and greater stability in a disruptive age.