

# **Governing Greater Boston**

*The Politics and Policy of Place*

Charles C. Euchner, Editor

2002 Edition

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THE RAPPAPORT INSTITUTE FOR GREATER BOSTON, based at the John F. Kennedy School of Government at Harvard University, works with universities, public agencies, and other organizations in the region to improve the governance of Greater Boston. The Institute offers five critical resources to pursue this mission:

**People:** Reaching out to graduate and professional students from throughout Greater Boston, the Rappaport Institute coordinates internship and fellowship programs that place the “best and the brightest” in meaningful policy positions in government agencies.

**Research:** The Rappaport Institute coordinates a wide range of research projects that provide useful information and analysis. In addition to the *Governing Greater Boston* series, the Institute issues other major reports, applied research, working papers, and case studies on a wide range of issues.

**Forums:** The Rappaport Institute convenes forums of all types and sizes to engage the community in open-ended conversations about the public policy challenges we face in the next generation.

**Information:** The Rappaport Institute web site provides the foundation of a comprehensive information resource for public policy in Greater Boston. The site ([www.ksg.harvard.edu/rappaport](http://www.ksg.harvard.edu/rappaport)) provides useful information about the region’s public policy projects and organizations, as well as useful original research, calendars of events, and links to Boston-related research.

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## Preface

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**R**ECENT POLICY DEBATES over the best way to address human problems can be summarized in three words: People or places?

The “people” side of the debate says that government policy should provide as many choices as possible for individuals to pursue their dreams for family, jobs, education, and community. In this restless age—with constant revolutions in family makeup, ethnicity, business, and, of course, information—people need to be ever ready to remake themselves. People need to make meaningful choices in all aspects of their lives.

The “places” side of the debate says that individuals’ choices are only as good as the communities where they live. It is fine to demand that people retool themselves many times over their lifetimes. But people’s choices are affected by their community’s homes, schools, parks, places of worship, labor organizations, little leagues, and political parties.

In reality, both sides are right. Countless individual decisions determine the health of a community, but no individual can succeed without the intricate webs of cooperation and competition that are made possible by place.

Over the past year, the Rappaport Institute for Greater Boston has strived to develop an agenda that responds to both sides of this debate. This book is one result of this effort. Every year, the Rappaport Institute will publish an overview of the issues and challenges facing the region. In even-numbered years, the *Governing Greater Boston* series will explore the politics and policy of place; in odd-numbered years, the series will explore the politics and policy of people.

The goal of the *Governing Greater Boston* series is to provide a comprehensive, reliable, balanced “field guide” to the issues and challenges facing the metropolitan area. The series will provide one-stop shopping for people who care about the region and its policy challenges—government officials, journalists, teachers and students, policy advocates, business people, and simply concerned citizens.

The *Governing Greater Boston* initiative is ambitious. Rather than providing an examination of one or two aspects of an issue, we hope to offer smart discussions of all aspects of all issues. It is a difficult job, and our first effort no doubt falls short in many specific ways. But as we build on our foundation with this 2002 edition, we hope to become a definitive and trusted source briefing book for all who care about Greater Boston and Massachusetts. We invite you to help us improve future editions.

In addition to publishing this annual survey of issues, the Rappaport Institute is also committed to providing a searchable database on our Internet site ([www.ksg.harvard.edu/rappaport](http://www.ksg.harvard.edu/rappaport)) of the issues, organizations, and resources in the region. The site will also provide links to other useful resources in the region.

The Rappaport Institute also is committed to providing a “safe place” where public officials and stakeholders can wrestle with complex and emotional issues. Too often, stakeholders get caught in debates that undermine their ability to get to yes on important policies like housing, transportation, parks, and community development. But when they are brought together, with cutting-edge data and analysis, they can do amazing things. We have sponsored workshops and seminars for elected officials on a variety of issues, as well as open forums exploring the full range of policy issues facing the region.

### **What Matters to Greater Boston?**

To better understand the needs of the region in this new century, we have talked with hundreds of people to find out what issues matter the most to them.

The answers will probably surprise no one. Everyone wants creative school programs that expand opportunity for all students—not only during the day, but in the afternoon and in the summer. Everyone wants fresh ideas for affordable housing. Everyone wants to find ways to move beyond Boston’s legendary parochialism. Everyone wants to expand regional cooperation. Everyone wants new approaches to development of infrastructure and maintenance of streets, transit, parks, and public facilities.

Underlying each of these priorities is a desire for individuals to have greater choice about where to live, work, go to school, worship, and enjoy free time. Also underlying these priorities is an understanding that we can only expand choice if we improve the places in which our people live and work.

The region faces formidable challenges in the coming years, and each challenge requires confronting a hundred tangible and stubborn problems. Consider some of the specific concerns expressed to us in conversations recently:

Boston’s Mayor Thomas Menino and Suffolk County’s Sheriff Richard Rouse are concerned about the impact of reentry of convicted felons into the community.

Ray Hammond, one of the founders of the Ten Point Coalition, wants to make sure that the revitalization of Boston’s waterfront extends north and south of East Boston, the North End, and South Boston.

Patricia McGovern, a former state senator and candidate for governor, would like to see examination of the administration of the state's judicial system.

Vivien Li, the director of the Boston Harbor Foundation, wants to see the right balance of natural spaces, housing, and commercial development on Boston's waterfront communities.

Charles Baker, former Secretary of Administration and Finance under Governor William Weld, is concerned about the financial foundations of major health care providers in the state.

Jarrett Barrios, the state representative from Cambridge, fears the possible elimination of bilingual education in a state ballot initiative—but at the same time wants to create greater flexibility in the way those programs are implemented.

Aaron Gornstein and other housing activists across the region are concerned about the limited planning capacity of cities and towns across the state—which undermines efforts to develop a consensus for new housing that strengthens the fabric of all communities.

Thomas Keane, a *Boston Herald* columnist and former Boston City Council member, wants to see the city of Boston address the issues that matter most to the middle class—the quality of schools, crime, and a host of “quality of life” issues.

Thomas Finneran, the Speaker of the House, watches over the state's budget as the downturn in the Massachusetts economy reduces the state's resources—and the ability to deliver basic services and maintain a strong bond rating.

Patrice Todisco, Valerie Burns, and other open-space advocates actively monitor and lobby public officials on the design and funding of the new Rose Kennedy Greenway—and how the region's parks and waterways will be designed and maintained over the next generation given severe fiscal restraints.

Lawrence diCara, a former member of the Boston City Council and current behind-the-scenes politico, worries about the lack of interest and participation in electoral politics in Boston and other cities and towns.

The list, of course, goes on. These concerns merely scratch the surface of the region's political and policy challenges in the coming years. But each of these concerns poses major political, social, organizational, and financial challenges. A person could spend a lifetime working on any one of the issues, and have little time to become engaged in any of the other pressing matters facing our region.

## **Looking Ahead**

In many ways, Greater Boston has never been in better shape—not only relative to our own past, but compared with cities across the nation. We have a diverse economy, creative people, strong neighborhoods, good parks and cultural institutions. In the past generation, countless people have revived our communities, block by block. We have made some tough choices on education and the environment. We have fixed many of our decaying neighborhood centers, libraries, parks, and transit stations.

But we have much work to do. The Rappaport Institute hopes to contribute to the future work of the region by providing a valuable field book to the region's problems. We look forward to engaging all of the region's concerned people in addressing these issues by making their dimensions clear to all.

# 1. *Where is Greater Boston?* *Framing Regional Issues*

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*Charles C. Euchner*

**I**N THE SPRING OF 1956, the governor of Massachusetts asked the dean of Boston College's business school to represent him at a national conference of educators in Michigan and offered to provide an airplane for the trip. The Reverend W. Seavey Joyce was not accustomed to air travel, and he experienced a revelation about the City of Boston on his return home.

As the plane neared Boston and banked lazily to begin its approach to Logan Airport, the priest overcame his aversion to heights long enough to look out the window at the scene below, which he saw from a distance and a perspective he had never before experienced. As he gazed down on the low-lying protuberance of land beneath him, which was completely undistinguished, had no distinctive skyline, and not a single identifiable structure except the old Custom House tower, he exclaimed in a startled voice: *Where's Boston?*<sup>1</sup>

Father Joyce's question stemmed from the city's amorphous physical form. Boston did not cut as sharp a figure as cities like New York, Chicago, and San Francisco. It was difficult to distinguish between Boston and nearby communities like Chelsea, Somerville, and even Milton. If a big city's identity stems at least partly from the face that it shows to the rest of the world, then Boston's identity lacked certainty and confidence. Father Joyce's question could just as well apply to the city's economic makeup, its educational future, its shifting ethnic makeup, and its ambiguous cultural face.

Passengers flying into today's Logan Airport would not struggle to know the contours of Boston. Boston is a teeming city of skyscrapers and tight-knit urban communities and town centers, bounded by great waterfronts and park systems and highways. But the visible strengths of the region—which would have astonished even the most optimistic civic leaders of a generation ago—have given way to a new set of questions about where Boston is going in the new century.

In the years since Father Joyce's exclamation, Boston has transformed itself from an urban disaster case to one of the greatest economic and cultural attractions in the nation and even the world. After decades of losing population and jobs, after a long neglect of its waterfront and parks, after years of cultural stagnation, Boston is a city and region transformed. The economic boom that produced the lowest unemployment rate in history and the cultural cachet that made Boston an international attraction resulted from the region's extraordinary diversity and balance. It is not enough that the region's economy is strong; it is also diverse. It is not enough that the region boasts some of the nation's greatest cultural and historic treasures; it is also developing a range of institutions and activities that cater to every interest and taste. It is not enough that the population is invigorated by hundreds of thousands of students every year, or that refugees and transplants from all over the world are making the region their home; it is that the region is mixing and disburdening its people previous in bastions of segregation and isolation.

The challenges of the new Boston owe their existence to the region's transformation in the last generation. Those challenges can be stated almost as simply as Father Joyce's query almost a half-century ago:

Where are Greater Boston's boundaries as a region? How should people who live and work in the region think about their common problems?

Where is Greater Boston's environment? How does the environment—the quality of air and water, the brownfields, the systems for disposing of wastes—shape the region's possibilities and perils?

Where is Greater Boston's transportation network—and where does it need to be to serve the evolving need to get people around the region?

Where are Greater Boston's homes? How can the region assure that everyone who needs a home can get one?

Where is Greater Boston's capacity to plan for the future? What tools does the region possess to coordinate sensible growth that meets the needs of all of its people?

The answers to these questions are complex—and contradictory. The image and primary economic engine of Greater Boston still lies in its "hub," the City of Boston, but over the past generation the region's people and businesses have extended ever outward, creating new corridors along Route 128 and Interstate 495 and on Cape Cod as well. Greater Boston's natural environment remains one its most attractive features, but at the same time the region loses dozens of acres of its "greenscape" daily to the "grayscale" of



development. The region's transportation network offers more real choices to get around than virtually any metropolis in the nation, but it is also old, congested, and expensive to maintain and operate, much less expand. Greater Boston has one of the most diverse systems of housing nationally, with the iconic three-deckers mixing in with a rich collection of single-family homes, apartments, and condominiums—but at the same time, the housing stock has become so expensive and new construction so burdensome that it threatens to lose its accessibility to people of all income levels. As Greater Boston struggles with regional issues, it boasts an impressive array of regional authorities but no clear strategy for encouraging communities to develop in ways that enhance the whole region.

### **The Sprawling of Greater Boston**

Where people live defines any region's identity. A region's homes, neighborhoods, and communities are the building blocks of everyday life and set the possibilities and limitations for individual, family, business and community life. Boston has experienced a slow-motion spatial revolution in the last generation. More than 70 percent of the region's job growth took place in the suburbs, and the population went with it.<sup>2</sup> The state's population for the most part held steady in established urban areas over the 1990 to 2000 period, but exploded in "greenfields," the relatively open areas on Cape Cod and the islands and the rim along the Interstate 495. Greater Bostonians migrated away from established communities—often leaving behind society's most vulnerable people—and developed land more intensely the state's diminishing open spaces.

Take a look at some of the communities that have gained the most population over the past decade. The two fastest growing counties—Nantucket and Dukes (Martha's Vineyard)—grew at the stunning rates of 58 and 28 percent, respectively. These traditionally remote counties added almost 7,000 residents to a base of 24,000. In raw numbers, that might not seem like much, but the change heralds a national movement toward areas with high levels of recreational and natural amenities. Echoing the growth on the Cape and the Islands, growth on the outdoor amenity-rich South Shore is large both in percent and in numbers of new residents. Barnstable and Plymouth counties, in the southeast corner of the state, combined to add 73,000 residents.

Most of the rest of the growth occurred along the I-495 corridor. Essex, Worcester, Bristol, Norfolk, and Middlesex counties all grew at a rate between 5 and 9 percent over the last decade. Cities like Worcester and Lawrence added a few thousand residents, but most new population took root in suburban communities outside urban cores such as Hopkinton and

Boxboro that boast both access to the Interstates and strong ties to their traditional rural character.

The state's 15 biggest cities accounted for just 10 percent of total population growth. Boston, Cambridge, Chelsea, Everett, Lynn, and Revere all gained population, but not at a very fast rate and only because of new influxes of foreign immigrants. You could say that the 1965 immigration reform law, which opened the U.S. to non-Europeans after decades of exclusion, has saved Massachusetts's cities. But at the same time, domestic immigrants settled overwhelmingly in suburbs.

That trend toward sprawl is troubling for a number of reasons. First, it means that the state is gobbling up undeveloped land at an alarming rate. As documented in the Massachusetts Audubon Society's recently revised report, "Losing Ground," the Commonwealth loses 44 acres of woods, fields or farmland to residential, commercial or industrial development each day—about 16,000 acres each year. The loss of open space matters because it imperils a complex set of assets of great value to the state. As the inventory of undeveloped land diminishes, the state and region lose scenic vistas and recreational opportunities so highly valued by potential in-migrants. Also lost are habitats critical to wildlife, from uplands to coastal zones, which are attracting increasing numbers of nature-oriented visitors. The watersheds and estuaries that are essential to water supplies, and on which life on earth ultimately depends, also suffer damage.

Beyond the damage done to the region's ecosystem, sprawl also undermines the environmental character of older cities and towns. Rather than tending to the quality of old urban areas like Lawrence and Lowell, residents and developers look for a new life in a new land. Those left behind must struggle to maintain a healthy and vibrant urban life.

### *Behind the Dispersal*

The dispersal of Greater Boston has occurred for three primary reasons—money, taste, and technology. The money factor—the increasing affluence of the new economy—has allowed more people to trade up for bigger homes in leafy, low-density communities. Real-estate agents report that affluent families are looking for larger homes away from the hustle and bustle—read: congestion—of the region's urban core.

The taste factor feeds off the money factor. So-called BoBo's ("bourgeois bohemians") and the first wave of the retiring baby-boom generation are seeking out communities where they can have access to a full range of recreational and cultural amenities. That means everything from beach houses and ski slopes to hiking trails.

The technology factor lends a particular shape to emerging settlement patterns. The automobile is the most pervasive technology shaping the region. The number of vehicle miles traveled in Greater Boston has increased at an annual rate of 1.2 percent, about 15 percent over a decade. The Boston region actually has more freeway miles per capita than Los Angeles. Like other parts of the country, Greater Boston has reached a point where planners and developers are designing cities and towns to accommodate cars. “Carcaecture” includes a wide range of settlements accessible only by car—housing developments, office parks, shopping malls, and recreational spaces. But technology goes far beyond the car. High-tech industries are the regional economy’s most powerful engine, and companies like EMC, Cisco, and Oracle seek out larger building footprints than can be developed easily in urban areas. To direct this development to urban areas would require more state and local incentives than are now in place. Furthermore, while high-tech employment does increase the number of telecommuters who can live in far-flung locations, there is no good evidence that those telecommuters drive fewer miles than ordinary workers.

Money, taste, and technology have combined to give Greater Boston a new look that can be illustrated with the experience of Cape Cod. As a coastal area, the Cape is attractive to affluent families, young couples, retirees, and people seeking second homes. A recent report about growth along coastal communities nationwide captures the phenomenon on Cape Cod:

In just the past five years, the year-round population has increased 12 percent to 225,000. The Cape and the islands also have eight of the state’s 12 fastest-growing school districts. Mashpee’s enrollment has tripled in the past 20 years. Cape Cod Hospital has 50 percent more doctors than in 1990, and the Cape Cod Mall has just increased its retail space by 25 percent. The number of radio stations on the Cape has risen from four in 1985 to 13. There is a fledging high-tech industry, with hopeful talk of a “Silicon Sandbar.” There are even the once unthinkable: wintertime traffic jams in Hyannis. And with a third of the Cape’s land still available for development, the boom is unlikely to slow anytime soon. The Cape’s development is the result of a self-perpetuating cycle: more people move to the area, so more businesses stay open year-round, so more tourists visit all year, so new businesses open, so more jobs are created, so more people live there. . . . To keep up with the affluent newcomers, the Cape Cod Mall has brought in higher-end stores. Thirty years ago, almost all the non-anchor stores were locally owned. Today, there is only one, Holiday’s Hallmark. Cape Cod

Hospital in Hyannis is changing its marketing strategy as well, expanding cardiology and cancer services so patients won't have to go back to Boston. Emergency angioplasty is offered seven days a week, and the hospital is trying to start an open-heart surgery program.<sup>3</sup>

Even with a respected regional planning body, the Cape has become the embodiment of the kind of sprawl that occurs across the nation.

Still anchoring Greater Boston, amidst the Cape-style development, is the City of Boston, called the "hub" because of its concentration of businesses, universities, medical centers, cultural attractions, and natural and historic places. But the character of the city is changing dramatically. The City of Boston now has two-thirds the population it had in 1950, with a density of about 12,200 people per square mile. Other cities with the kind of vibrancy that Boston seeks to develop have higher densities; San Francisco, for example, has 15,000 people per square mile. Density provides one important measure of a city's ability to support thriving local industries.<sup>4</sup>

Overall, Greater Boston is now about half as dense as Los Angeles, the symbol of dispersed development; metropolitan Boston has 2,700 people per square mile, while L.A. has 5,400 people per square mile.<sup>5</sup> Even though some inner-core communities like Boston, Cambridge, Brookline, and Milton have thrived, even gaining population, they are doing so at a slower rate than the outer communities.

Exacerbating the sprawling development of the region is a phenomenon that might be called "household sprawl." Not only is population dispersing to broader reaches of the region, but people are spread out among more and more households as well. The average household in the 101 cities and towns of the Metropolitan Area Planning Council had 2.47 persons in 2000, compared with 3.2 persons in 1970.<sup>6</sup> In practical terms, every 1,000 homes had 730 fewer people—meaning that many fewer customers in the area for local business, public transportation, public schools, cultural facilities, and the like.

Socially, smaller households mean greater strains on many families. A single parent, usually a mother, heads some 39 percent of all households in Boston. Such families need a strong support network, with close access to their own jobs, their children's schools and recreational activities, shopping, health care, and other elements of everyday life. The "multi-tasking" that is central to a single-parent household is easier in communities with strong support structures—day care, schools, shopping, libraries and playgrounds.

The impact of smaller households extends to a wide range of other issues. Advocates of affordable housing, for example, typically assume that new affordable housing units must be 1,000 to 1,200 square feet. But more

than three-quarters of all households with less than \$50,000 annual income have one or two persons, in which units with 500 to 800 square feet will provide more than adequate space. Smaller homes could lead to greater density, which means more support for local businesses and transit services. But the trend is going the other way, toward larger homes with fewer people, spread out over more space.

### *The Region's New Diversity*

The Greater Boston area—and the communities within the region—have become so much more diverse demographically that they would be unrecognizable just a generation ago.

As Paul Grogan points out in *Comeback Cities*, the most important urban policy of the last generation was the 1965 reform of the nation's immigration laws to open the gates of the U.S. a new wave of newcomers.<sup>7</sup> The Hart-Celler Act opened the nation to a new wave of immigrants, which is smaller than the pre-World War I immigration but significant for its greater diversity. In the order of their magnitude, immigrants came to Greater Boston from Haiti, China, Ireland, the Dominican Republic, Italy, Jamaica, Vietnam, Cape Verde, and Russia. One in ten Massachusetts residents were born in a foreign country.

More than 370,000 immigrants, comprising 11.5 percent of the total population, lived in Greater Boston (which includes Middlesex, Suffolk and Bristol counties), the largest foreign-born concentration in the state.<sup>8</sup> According to the 2000 Census, Boston's population increased by 14,800 people, from 574,000 to 589,000 (2.6 percent). The white population in the 1990s actually fell by 47,000, while the Hispanic and black populations increased by 23,134 and 3,148 respectively. "While the foreign-born population was increasing rapidly, the native-born population was decreasing by over 16,000," said the Federation for American Immigration. "The impact of immigration on Boston's population is understated to the extent that it does not take into account the children born to the immigrant population, because those children are part of the native-born population rather than the immigrant population."<sup>9</sup>

Mary Waters, a Harvard sociologist, notes that immigrants play an important role in revitalizing cities. Because they are self-selected—they must take costly steps to move to a new country—they tend to offer some of the most energetic and creative people in cities. Their drive not only heightens the competitive character of the community, but also offers new role models for long-time residents of urban communities.<sup>10</sup> Peggy Levitt of Wellesley College has shown how Dominican immigrants to Boston's Jamaica Plain

community have created rich networks that both energize their adopted community and foster ties with the old country.<sup>11</sup>

Historically, Boston has been one of the most segregated regions in the nation. The tradition of small cities and towns and the lack of regional systems for housing and education resulted in a checkerboard of ethnic enclaves, each with its own cultural identity and exclusivity. Boston neighborhoods like Roxbury (blacks), South Boston (Irish), East Boston (Italians), sections of Dorchester (blacks, Italians, Irish), and the North End (Italians) all developed a strong racial or ethnic makeup due to exclusion from other communities and intense connections to their own people. The ethnic and racial exclusivity extended to many suburban communities. Affluent communities like Brookline, Newton, and Wellesley became almost exclusively white, while working-class communities like Chelsea, Lawrence, and Medford had other ethnic compositions.

Patterns of segregation are evolving in Greater Boston. As minorities improved their economic status in the last decade, they have become homeowners in greater numbers than ever before, joining the suburban exodus of other groups. Still, almost half of all minority home purchases in 126 communities surrounding the City of Boston were concentrated in seven cities and towns: Chelsea (where blacks and Hispanics comprise 43.6 percent of all home buyers between 1993 and 1997), Randolph (32.3 percent), Everett (15.9 percent), Lynn (15.5 percent), Somerville (14.3 percent), Milton (14 percent), and Malden (13 percent). To achieve racial and ethnic integration with white homebuyers, about half of all minority homebuyers would have had to buy a home in a different community during that period.<sup>12</sup>

At the same time that segregated patterns of development persist throughout the region, there are important new blendings of racial and ethnic populations. In recent years, Greater Boston has seen new levels of integration that would have been unimaginable just one generation ago. Once solid ethnic enclaves like Chelsea, East Boston, South Boston, Lawrence, and Lynn, have welcomed newcomers of all backgrounds. While black population has remained mostly stable throughout the region, Hispanic and Asian populations have increased dramatically.

### *Reviving Urban Centers*

As Greater Boston moves into the new century, one of its great challenges will be to revive old urban centers. Greater Boston's equivalent of the struggling rust belt lies in the communities located in the Near North Shore (Chelsea, Everett, Lynn, Revere, and Saugus) and the Near South Shore (Braintree, Quincy, and several other bedroom communities). Other cities,

like Lowell, Lawrence, New Bedford, and Brockton, have also lost their traditional economic base and lack the resources to compete for social and economic activity. These communities are home to some of the region's poorest populations, who have access only to inadequate education, housing, health care and bear the brunt of average social problems like drug abuse, teen pregnancy, and crime.

Many of these communities serve as “dumping grounds” for public facilities and highways and other infrastructure. In recent years, policymakers have become more aware about the unfairness in the location in inner-city communities of facilities with negative impacts on the community. Negative impacts can be found with the location of garbage and waste treatment facilities, bus sheds, parking facilities, public housing, prisons, storage facilities, as well as the routing of automobile traffic and airline flight paths. These cities also suffer more than other communities on issues of air and water pollution, brownfields, asbestos and “sick building” syndrome, and dilapidated buildings, parks, and other sites.

But at the same time, many of these communities possess pieces of a strong urban fabric—good parks, public facilities, housing stock—as well as growing immigrant populations that can serve as a foundation for future creativity and development. Greater Boston's challenge is to identify the assets that are strewn throughout the region and make strategic investments to protect, enhance, and build on those assets. Where there is an attractive waterfront or downtown area, provide the connections to the rest of the community that makes it an attractive destination for residents and visitors. Where there is a growing immigrant population, provide the strong public schools that provide young people with basic skills. Where there is a strong transit connection, foster the kind of mixed-use development that makes it an attractive place for people of all backgrounds to live and work.

One model for redevelopment of these struggling communities might be found in the inner-city communities of Boston. In recent years, Boston has learned just how economically dynamic even its struggling neighborhoods might become. Through a joint initiative of the Initiative for a Competitive Inner City and the Boston Consulting Group, policymakers have begun to see neighborhoods like Roxbury and Dorchester as new frontiers for development. Boston's inner city—an area marked by low income, few jobs per resident, high unemployment, and high poverty rates—actually presents extraordinary business opportunities. Even though they lag behind the rest of the city on these measures, sections of Roxbury, Dorchester, South Boston, Jamaica Plain, and the South End still offer strong advantages for business activity. Strategic location, a large and loyal labor pool, and significant col-

lective disposable income make the inner city an important place for economic development. According to a 2001 report by ICIC and BCG, the area's 6,000 businesses generate \$8 billion in revenues and employ 130,000 people. The area's 240,000 residents have \$1.3 billion in spending power, of which 30 percent is directed outside the area.<sup>13</sup>

Inner-city development depends on exploiting market opportunities made possible by the area's labor market and its location near downtown, medical institutions, universities, and transportation networks. The ICIC study recommended building on previous success in health care, commercial services, and education and training, while aggressively playing "catch-up" in financial services, hospitality and tourism, retail, information and technology services, and manufacturing. The inner city boasts an unusually stable labor pool that should serve growing businesses well. It also boasts a per-square-mile buying power that exceeds affluent suburbs like Wellesley. The trick is to provide strategic services and connections to reduce the gap between potential and reality.

The same kind of analysis might be conducted for the Near North and South Shores of Boston. Although not as densely populated as Boston's inner city, these communities offer large labor pools and strategic location near transit and highways. A successful urban revitalization program in those communities—as in Boston—will depend on three ingredients. First, there must be good economic and social data. Second, there must be a thorough evaluation of community assets. Third, there must be good working relationships with public, private, and nonprofit organizations.

### **Improving the Environment**

In an acclaimed study of the environment in urban areas, Ann Whiston Spirn of the Massachusetts Institute of Technology writes: "Nature is a continuum with wilderness at one pole and the city at the other. The same natural processes operate in the wilderness and in the city."<sup>14</sup> To make the city and its neighborhoods whole requires tending to the environment that is alive in every nook and cranny of the city.

As Spirn suggests, Greater Boston's environment provides the framework for everything that happens in the region. Building and redesigning parks helps to revive neighborhoods just as much as new and rehabilitated housing. Community parks, playgrounds, and gardens also improve the health of residents by getting people outdoors; obesity has become a major health problem in neighborhoods where children have few recreational opportunities outdoors. Cleaning the harbor and rivers not only draws people out of their homes, but provides new identity for neighborhoods and districts and offers a



focal point for new development. Reducing air pollution helps children, especially in poor neighborhoods, avoid health problems like asthma.

### *Comprehensive Approaches*

Policymakers agree that integrating environmental, transportation, housing, and other investments is critical to the longterm health of the region. The state's environmental-review director, Jay Wickersham, sees a strong connection between transportation projects like the Urban Ring transit system and the efforts to clean up polluted waterfronts and brownfields. Creation of the circumferential transit line would catalyze development, reduce congestion in the Downtown, and leverage the resources needed to invest in environmentally degraded areas.

In the past three years, the Boston Redevelopment Authority has released comprehensive plans for waterfront areas in East Boston and South Boston. But those two areas account for less than half of the waterfront in Greater Boston. The Boston Harbor area actually begins in the Chelsea area at the convergence of the Mystic and Chelsea Rivers and extends down to the Neponset river and points south. The Charles River extends 80 miles from the mouth of Boston Harbor through 23 cities and towns with a watershed population of 900,000 people. The Neponset River extends from the harbor through 13 cities and towns with a population of 300,000. The Mystic River Watershed encompasses 76 square miles, half a million people and 21 communities. These waterfronts offer a priceless opportunity not only to restore damaged natural spaces, but also to connect urban neighborhoods with the resources of the whole region.

A number of major planning initiatives could have a dramatic impact on the environment of Greater Boston for years to come. The South Boston Waterfront, once a dilapidated railyard dominated by surface parking, has the potential to become Boston's new financial and business district—and its new gateway to the waterfront. With billions in public investment to clean the Boston Harbor, create a tunnel to Logan Airport, establish a new public transit line, and build a new courthouse and new convention center, the 1,000-acre area is poised for a major wave of hotel, office, and residential development. City and state officials, activists, and residents have haggled for years over the design of the new district. Environmentalists and parks advocates have been in the middle of that debate, hoping that it can serve as a model of sustainable development.

### *Targeting Specific Ills*

Not all environmental problems require a comprehensive community approach. A number of environmental problems can be addressed separately.

Air quality can be enhanced by improving automobile traffic, encouraging alternative forms of transportation, and forcing power plants to adopt cleaner systems. Water systems can be cleaned by improving sewerage systems, building water-treatment plants, dredging and cleaning clogged waterways, and reducing impermeable surfaces to reduce runoff. Brownfields can be cleaned or capped to make them usable as industry, recreational, or residential spaces. Massachusetts has made some progress on these issues in the last two decades—most remarkably with the cleanup of the Boston Harbor—but ultimately the state needs to think of these separate systems as part of a single ecological system.

The federal and state governments have made enormous investments in the environment of eastern Massachusetts. A U.S. District Court in 1986 ordered state officials to embark on a \$3.8-billion cleanup of the Boston Harbor, which has dramatically improved the water quality of the 50-square-mile area bounded by 180 miles of shoreline. The Massachusetts Water Resources Authority in 1997 began operations of its state-of-the-art sewage treatment plant. The City of Boston is modernizing its sewer pipes to prevent dumping of raw wastes into the Boston Harbor and Charles River during major rainstorms. The Commonwealth has also initiated projects to improve the state's 28 watersheds, overhaul cesspool systems, clean up brownfields, reduce fumes from public transit vehicles, and reduce the generation of hazardous wastes. But the remaining challenges are formidable.

### *Community-building and the Environment*

Parks, playgrounds, and other natural spaces offer a central element of community identity. Green spaces provide places for people of all ages to gather. Greater Boston has made three great contributions to the open-space movement. The region's earliest public open spaces were actually cemeteries—most notably, Mount Auburn Cemetery in Cambridge and Forest Hills Cemetery in Boston—which offered not only great resting places but also places to get away from the urban bustle. The creation of Frederick Law Olmsted's Emerald Necklace created a new ideal of open space, with carefully sculpted landscapes that evoke the countryside. Finally, community-based groups gave rise to a network of gardens, playgrounds, and wilds that integrated nature into the fabric of neighborhoods.

Greenspace advocates regularly call for increasing the acreage of parks in urban areas, pointing out that many neighborhoods lack adequate outdoor places for young people to play. In debates over the development of the South Boston Waterfront and the 27-acre area opened by the depression of the Central Artery, those advocates have lobbied for the creation of new

parks for residents, tourists, and business people. Cities and towns all over the region have moved to adopt the Community Preservation Act, which gives localities the power to levy a 3-percent surcharge on property taxes to pay for open space, historic preservation, and housing. Most communities plan to dedicate the bulk of that money to acquisition of open space for ecological and recreation purposes. Such a grassroots movement for open-space development could change the shape of the region, not only by knitting together the frayed pieces of the environment, but also by tightening the squeeze on housing.

But many urban designers say that a more critical need is for existing parks to be improved and maintained so that they are more attractive and usable. Boston Parks Commissioner Justine M. Liff has stated that one of the city's greatest needs is development of a comprehensive maintenance plan. In recent years, the Commonwealth, City of Boston, and Town of Brookline have made major investments to restore the Emerald Necklace, which had fallen into disrepair for decades. The Boston Parks Department's 2001 Five-Year Plan documents that major efforts are required to repair and improve the city's smaller parks, playgrounds, gardens, urban wilds, cemeteries, and walkways. Boston's neighborhood parks—Mission Hill's McLaughlin Park, Mattapan's Almont Street Playground, and Allston's Ringer Park, to name three—need design and basic maintenance improvements that will attract more users and a sense of community loyalty.

Under the leadership of Parks Commissioner Liff, the City of Boston has expanded its open-space network by 25 percent. The overall parks system includes 4,400 acres of open space, with the ownership and management split almost evenly between the city and the state's Metropolitan District Commission. The greatest addition to the city's open-space inventory is Millennium Park in West Roxbury, a 100-acre park created out of landfill and located by West Roxbury High School and the Charles River. The park—larger than the Boston Common and Public Garden combined—offers picnic areas, play structures, an outdoor classroom and amphitheater, six miles of walking and bike trails, and access to canoeing and fishing. The city has also been part of the consortium to create the new Boston Harbor Islands National Recreation Area, with 30 islands open for camping, and educational and recreation programming. When the Central Artery is finally moved underground, the city will have a 27-acre swath of real estate for parks and other development.

The crown jewel of the regional park system is the 20,000 acres of woodlands, wetlands, and urban parklands owned and managed by the Metropolitan District Commission. In recent years, the MDC has come under

fire for its hiring and management practices. But the system operates more parks, pools, rinks, parkways, and hiking trails than any other entity in the state.

Parks advocates throughout the nation have discovered that the “broken windows” theory of community policing applies to parks and open spaces as well.<sup>15</sup> With improvements in their most visible elements—entryways, fencing, benches, trash cans, signage—parks would invite a broader range of users and develop strong local support and stewardship. Such efforts require major public investments, particularly in neighborhoods where community groups and businesses do not have the clout or resources enjoyed by Back Bay, Beacon Hill, Harvard Square, and other affluent areas.

Because of fiscal constraints, state and local agencies have been moved to create partnerships with corporations and nonprofit organizations. The most frequently cited model is Post Office Square in Boston, where a desolate parking garage was transformed into a park by putting the garage underground and using the proceeds for park design, construction, and maintenance. The park, managed by a nonprofit group, Friends of Post Office Square, cost \$80 million to build. Once the construction is paid off, all the proceeds from the garage go to the City of Boston. The public-private approach failed at nearby City Hall Plaza, where public opposition stopped a proposal to redesign the barren and wind-swept area with revenues from a hotel and garage. Critics question whether open spaces can maintain their public character if they are operated by private or nonprofit entities, and also point out that less affluent neighborhoods do not have access to the revenues of a Post Office Square.<sup>16</sup>

### *Maintenance for a Better Environment*

No matter what their economic condition, the state and its localities will invest hundreds of millions of dollars in infrastructure over the course of several years. From 1990 to 2000, the Commonwealth alone expended more than \$10 billion on infrastructure in bond-financed projects and many more billions on projects funded by grants. Although the state’s capacity for capital projects is inadequate to its tasks, it is still big enough to change the face of the state.

As the urban historian and environmentalist Sam Bass Warner, Jr., has argued, setting clear standards for maintaining streets, sewers, utilities, and parks could yield dramatic improvements in the utility and ecological value of the built environment. When repaving a street, cities and towns might incorporate environmental design into their projects—for example, building more permeable surfaces that allow rainwater to seep into the ground rather

than runoff into nearby bodies of water. When fixing basic elements of parks and schoolyards, cities and towns might develop design improvements that allow greater access and use of open spaces. When doing repair work on sewers and other underground infrastructure, municipalities might coordinate the improvement of other underground systems.

Maintenance of urban infrastructure—roads, parks, sewers, septic tanks, garbage facilities—often gets less priority than development of new infrastructure. Bond payments for financing new projects can be spread over many years. In addition, the politics of ribbon-cutting gives an incentive to politicians to undertake new projects. Yet the maintenance of old systems can produce positive impacts on local communities and economies. Policymakers in Greater Boston might explore new strategies for maintaining existing infrastructure. One model is offered by Massachusetts Turnpike Authority, which collects tolls and enters into leases with commercial franchises to raise funds for maintenance (a model which is faulty in other ways, as noted below). Another model is offered by the affordable housing industry, which builds monthly maintenance costs into the long-term debt service of new units. Older cities like Boston might lobby on Beacon Hill and in Washington for bonding authority to insure that existing infrastructure has the maintenance that it needs.

### **Getting Around the Region**

In an ever-decentralizing metropolitan framework, transportation is critical in connecting the many pieces of the region's economy and community life. People and communities with rich transportation connections—access to autos, public transit, bicycle and pedestrian networks, and air travel—are best positioned to take advantage of economic and social resources. People who have limited transportation choice cannot enjoy the region's many advantages.

Transportation does not matter solely because of its ability to move people around the region, but also because of its capacity for binding the economic and social resources of communities. Neighborhoods that lie at transportation crossroads have the opportunity to create more economic value and to capture the economic value of people passing through. Neighborhoods like Davis Square in Somerville, Central Square in Cambridge, and Kenmore Square in Boston—to name just three—have built vital economic and social engines around revitalized transit nodes. South Bay, Newmarket, Kendall Square, and the Interstate 128 ring have created powerful economic engines around highway access. But Greater Boston also contains numerous transportation crossroads with unrealized economic

potential. Transportation centers like Forest Hills and Melnea Cass Boulevard offer great potential for development, but require coherent strategies and investments to realize that potential.

Any investment in transportation infrastructure involves difficult trade-offs. A blue-ribbon committee headed by former state Senator Patricia McGovern recommended that 70 percent of all capital funding for transit be allocated to maintenance of the existing system. Meanwhile, numerous worthy new infrastructure projects—from the Urban Ring, the North-South Rail Link, extensions of existing transit lines, new commuter lines, upgrades of airports—gain more urgency as the region struggles with traffic congestion and overload on its existing transit system.

### *New Corridors, New Challenges*

The Boston metropolitan area is defined by highways. Virtually all of the cities and towns that gained 5,000 new residents are located near one of the new highways in the region. After an initial burst of growth along Route 128/Interstate 95, the development boom shifted further out to communities along Interstate 495, Interstate 93 North, and Route 3 South. In the 1970s, the communities along Route 128 actually experienced a decline in growth. The communities with a range of housing prices seemed to be the most volatile; more affluent communities like Lincoln and Westwood neither grew nor shrunk significantly.<sup>17</sup>

The patterns of development along the highways suggest cyclical change. A new transportation corridor makes new land attractive for location of office parks, manufacturing and storage facilities, and malls and other retail outlets. As that corridor is developed, it becomes less attractive for businesses that do not fit into its physical and social constraints. New corridors beckon, and the old corridor loses some of its original attractiveness. The development near Route 128 is not as intense as the new development around Interstate 495, for example.

The expansion of the regional airport network could further decentralize economic development toward facilities in Worcester and Bedford, Mass., Manchester, N.H., and Providence, R.I. Such a decentralization might produce a “recentering” of populations. Compact communities with thick economic and social networks could develop, reducing some of the worst characteristics of sprawl. But such a recentering would require strong planning efforts to foster the necessary densities of sustainable communities.

Congestion is a major problem for Greater Boston. Between 1970 and 2000, the total number of vehicle miles traveled in Massachusetts increased by 75 percent, while the total population increased by 10 percent. Even

though Boston boasts one of the nation's best transit systems, only 9 percent of all journey-to-work trips are on subways, trolleys, buses, and commuter trains. The region's greatest congestion spots suggest not only development patterns but also inadequate transportation and regional planning.

There is no reason to think that cars will play any lesser role in the next generation. Even in the event of a new energy crisis—which experts have predicted since the early 1980s, but which has not occurred—cars are likely to remain the overwhelming choice of transportation. Hybrid cars have proven successful ways to reduce gas usage and can be expected to flood the market in the coming years. The major question concerning cars is how traffic will be managed. Highway design and new technologies—such as bus transponders that regulate traffic signals and automatic toll-collection systems—can improve the overall flow of traffic. But they will not change the basic fact that more and more people will rely on cars for the foreseeable future.

### *Unequal Transportation Options*

The Greater Boston area has three types of community transportation challenges. In what might be called the “connected core,” residents and businesses enjoy a rich mix of transportation options. In addition to the automobile, people can take the subway, bus, and commuter train to almost every important destination. They can also take advantage of bicycle trails, water taxis, and taxicab service for many trips, and they are located close to planes, trains, and buses for inter-city travel. Even though this part of the region is served well, there are numerous problems—the main one being inadequate connections between nodes located away from Boston's Downtown. Boston's transit system is designed like spokes on a wheel, and the outer parts of the spokes do not have a rim that connects them; the result is that lateral trips often require going into the hub along one spoke and out to the destination along another spoke.

Parts of the urban core, what might be called the “isolated core,” are not so well connected. Many communities lack access to subway and trolley service and have only irregular bus service, and commuter lines travel through the neighborhoods without stopping. Going even a few miles on public transportation can require one or two transfers, which add unacceptable time to simple trips.

The third area of the region might be called “Car-ville.” In this area, travelers have little choice but to drive where they are going. The communities that have developed along major highways—first Route 128, then Interstate 495—have this character. Virtually all of the region's business parks are located in Car-ville, as are many residential enclaves where middle-

class families choose to live to escape the inadequate schools, crime, and other problems of the city. Car-ville mostly works for families who can maintain one or two good cars, but also involves many inefficiencies. Because Car-ville is spread out, making simple trips to work, day care, school, sporting and cultural events, shopping centers, and friends and family involve hopscotching all over the region, sometimes spending hours in a car on a given day.

### *The Limits of Transit*

Public transportation in Greater Boston poses a dilemma. On the one hand, the region offers a strong network of rapid transit, trolleys, buses, and commuter rail that offers inexpensive service to people in 51 cities and towns. Public transit offers an anchor for community development that allows the development of dense, mixed-use development that is critical to the fight against sprawl. Furthermore, transit ridership is expected to increase by 50 percent in the next 25 years.

On the other hand, transit is expensive. A system that primarily serves the eastern third of the state is financed by a one-fifth of all sales-tax revenues generated by the whole state. The Massachusetts Bay Transportation Authority's \$660-million budget for fiscal-year 2000 includes \$570 million in state funding. The new "forward funding" system for the MBTA is designed to impose fiscal discipline on the MBTA, but includes no mechanism for developing a business plan that will reduce state subsidies or increase operating efficiency or service levels.

The MBTA faces what might be called the "Amazon.com problem," in which more business creates financial strains. Heavier transit ridership requires new investments in trains and other equipment as demand exceeds capacity. Investments in "clean" fuel buses with handicapped access are more expensive than previous generations of vehicles. Commuter trains are also expensive. An analysis by Kim Norman and David Luberoff found that the new commuter lines to Fall River and New Bedford would cost more than \$12,000 a rider per year—about \$45 a rider daily—in public subsidies.<sup>18</sup>

Public transit will not do much to address the transportation needs of the growing suburban population. Commuting within suburbs and between suburbs—which has a limited capacity for public transit—accounted for 70 percent of all journey-to-work trips in 1990. Development patterns are relentlessly suburban, a fact that is likely to increase the reliance on cars for commuting. Contributing to the journey-to-work problem are new patterns of employment. Even with a minimal increase in population between 1970 and 1990, the number of jobs in the region increased 44 percent as more women,



young people, and old people participated in the labor market and more people held more than one job.<sup>19</sup> Two-earner households and multi-jobbing make it more difficult for people to get around by transit because they require traveling at odd hours and making more connections.

Mass transit—even buses—is expensive to operate. The MBTA estimates that a pilot program for late-night bus service would attract between 500 and 1,500 new riders a day. If the MBTA gets just 500 riders, the cost of the new service will be \$50 per rider; if the T gets 1,500 new riders, the cost falls to \$14.50 per rider. Because of state subsidies, the MBTA considers \$1.15 to \$4.50 to be an acceptable per-rider cost of operation. Unless ridership expands dramatically—with thousands of people leaving their cars for infrequent night-time service—it would be cheaper to pay people for cab fare than provide increased bus service.<sup>20</sup>

Despite its legacy as a transit-rich region, Greater Boston actually has more freeway miles per capita than Los Angeles, and 43 percent of all vehicle miles are traveled on freeways. The Central Transportation Planning Staff, the region's leading policy analysis office for transportation, concludes: "In order for transit to succeed, it requires a concentration of households and a concentration of destinations, whether they be work, shopping, or schools. Dispersed development patterns cost more for roadway construction, increases driving costs, creates additional air pollution and results in a conversion of open space to developed land. As this concentration of people and destinations disperses, the ability to serve people decreases."<sup>21</sup>

### *The Key to Transit: Nodes and Density*

Greater Boston is fortunate to have one of the most extensive public transit networks in the nation and the region is rebuilding the Old Colony commuter lines that were disassembled in the post-World War II years. The problem is that many of these lines have not been integrated into the larger fabric of the community. Many transit stations are in disrepair, and many areas surrounding transit lines and stations are filled with vacant lots and poorly scaled and designed buildings and roads.

The power of transit-oriented development is apparent in the revitalization of areas like Davis Square in Somerville and Central Square in Cambridge, where new and revitalized stations have produced a boom in economic activity. The Alewife station area of Cambridge offers great potential for new development. Planners have discussed new transit stops for Somerville's Assembly Square and the Medford-Malden-Everett Telecom City project. Meanwhile, the Boston Redevelopment Authority's Boston 400 planning process has undertaken a major study of "activity cen-

ters” that could serve as centerpieces of transit-oriented development throughout the city.

For transit-oriented development to succeed, state and municipal government have to make dense, pedestrian-oriented design an essential part of development within a half-mile or mile radius of transit stations. Enactment of special “transit overlay districts” would give priority to mixing business and residential activities, limit parking and automobile access, and cluster community services. Local government also might identify current areas with minimal transit service—like commuter rail lines—and encourage more intense and mixed development in the area. Boston’s Yawkey Station and Somerville’s Assembly Square sites are two good candidates for this kind of investment.

As the region expands its commuter rail service to suburbs, transportation and community planners need to work to assure that the new service produces the greatest opportunities for local development. New transit and commuter stations need to be located near existing business districts whenever possible—or be used as an anchor for new development. When stations are located away from existing hubs, communities should consider enacting development rules that encourage dense development and pedestrian-friendly design. Stations that are located on highways apart from the community, like the Plymouth commuter rail depot, exacerbate traffic congestion rather than relieving it.

Transportation of all kinds—planes, trains, and automobiles—requires tough choices, with real winners and losers. It also affects every other issue in the region, from the environment to housing.

## **Housing All Bostonians**

Housing in Greater Boston poses a great paradox. On the one hand, the region has prospered in the last decade because of its ability to attract newcomers to Boston, Cambridge, and suburban communities throughout eastern Massachusetts. Universities, hospitals, and mutual fund and other financial services companies all attract high-salaried workers, as well as entry-level service workers. The region’s success is reflected in neighborhoods throughout the region. Once decaying neighborhoods have returned to life, as new homeowners repair front porches, tend to gardens, and undertake gut rehabs of crumbling buildings.

At the same time, the region’s economic success has fueled a desperate housing crisis. Rents in the Boston Primary Statistical Area increased by 25.7 percent from 1995 and 2000. Neighborhoods that have long offered reasonable rents for poor and working class residents—like Boston’s Roxbury,

Dorchester, and Jamaica Plain—have seen even more impressive increases in real estate values. The median monthly rents for two-bedroom apartments in Roxbury increased by 38 percent from 1999 to 2000. Many families have undertaken a trek from booming real-estate markets to less vibrant markets. Blacks who once dominated Boston's South End have migrated to Roxbury, Jamaica Plain, and outside communities like Brockton.

Housing experts generally state that households should not spend more than 30 percent of their income on housing so that they will have adequate resources for other needs like food, clothing, transportation, education, and the like. But in Greater Boston, almost half of all renters—240,000 households—pay more than 30 percent of their income for housing. Almost one-quarter of the region's households, or 118,000 households, pay more than half of their income on housing. Even homeowners experience difficulty paying for housing. About 23 percent of all households that own their own units pay more than 30 percent of their income on housing and 11 percent pay more than 50 percent of their income on housing.<sup>22</sup>

The housing crisis ripples throughout the region. Educators report difficulties with children who are forced to move from year to year and experience difficulty getting settled in the classroom. Workers experience longer commutes and often must spend more time on transit to get to a job. Two-earner families experience greater difficulty juggling everyday chores from shopping to dropping the kids off at school. Business leaders have expressed alarm at the impact of the housing crisis on their activities, with some reporting that they have put expansion plans on hold because of concerns about their workers' ability to pay the rent. A commission headed by the president of the Massachusetts Institute of Technology reported difficulty recruiting faculty and researchers because of the housing crisis.

### *Not Enough Money, Too Many Regulations*

Part of the explanation for low building rates is the withdrawal of both federal and state governments from financing new construction. Since the Reagan Administration, the federal government has played little role in building new housing. Section 8 program, which once had both construction and voucher components, now focuses on providing rent subsidies for existing units. When the federal government commits money to construction, it is to rehabilitate housing—and, often, to reduce the overall supply. The HOPE VI program, for example, will result in a reduction of hundreds of units from the public housing stock in Boston. The state government, meanwhile, has shifted its resources toward shoring up existing units that are in financial or physical jeopardy. The state has been especially intent on “preserving”

affordable units that might be converted to market rate units after their owners pay off their mortgages.

State and local regulations pose more formidable barriers to new housing construction. The state building code—which establishes the basic construction standards for buildings of all kinds—is dispersed among several boards, which often create conflicting building requirements. The state code is implemented at the local level, but many local agencies lack the resources to implement them consistently or efficiently. Local officials sometimes overstep their authority and impose requirements that go beyond state regulations, and developers eager to cultivate good relations with local officials are not inclined to fight local officials.

Meanwhile, local zoning regulations often create new barriers to housing construction. Most communities do not offer any opportunity to build multi-family housing and set high standards—read: expensive regulations—for new housing development. The classic housing type of New England, the three-decker, has been all but banned from new development by zoning regulations. Historically, the three-decker has provided an opportunity for people of modest means to buy homes and rent out extra units to family and friends at reasonable prices. But community resistance to multifamily housing of all kinds—even in neighborhoods that are filled with good multifamily construction—has become written into the zoning codes of cities and towns around the region.

### *Community Resistance to Housing*

The biggest barrier to housing might be the state's long tradition of home rule and the NIMBY attitude—"Not In My Back Yard"—that arises when developers propose new housing. Because housing imposes new costs on communities for education, infrastructure, police and fire service, and other local services, most communities are loathe to embrace large-scale housing developments. The tax benefits of retail and other commercial development offers a much better financial reward, so communities fight proposals to build housing of all kinds.

The state gives developers one powerful tool when they confront opposition in suburban communities. Chapter 40B, a state law adopted in 1969, requires that 10 percent of all housing in the Massachusetts cities and towns be "affordable."<sup>23</sup> As of 2001, 23 of the 351 cities and towns in Massachusetts met that standard. Developers in communities not in compliance with 40B can override local zoning ordinances if they build affordable housing. Over the years, 40B has played a part in the development of 25,000 units of housing, or about 800 a year.

But 40B has become a contentious issue. Residents argue that the law encourages developers to create projects that undermine the character of the community and add excessive tax and service burdens. Other critics say that developers use the 40B tool to blackmail cities and towns into approving other kinds of development, such as large-scale retail, by threatening to build affordable housing if they do not get approval for their other projects. Developers, on the other hand, complain that the law does not give them enough authority to override local resistance to housing. Even when there is a compelling need for affordable units, developers must fight residents in town meetings and in hearings with state officials. Affordable housing advocates complain that the law has been so watered-down that it does not provide an effective tool for new housing development.

Overcoming the intense local battles over housing requires both a determination from the state government and flexible tools at the local level. What might that combination of centralization and decentralization look like?

## **Planning a Fragmented Region**

In a provocative study of the nature of organization, Steven Johnson argues that human and natural forms share the capacity to create order out of countless separate processes. In a process that he calls “emergence,” Johnson says that ants, brains, software, and cities all share this potential. Comparing ant colonies and cities is not just a metaphorical exercise, Johnson says. It is not just that ant colonies are “like” cities, but that they share the same basic dynamics of growth and development. If Johnson is right, then he offers some important lessons for Greater Boston at the dawn of the new millennium.

The argument is simple: The “intelligence” of any complex system cannot be developed whole or imposed from the top down, but must emerge from countless separate “dumb” decisions and actions. When ants move about their colony, moving trash and carrying carcasses, it is not because of a ruler’s edicts or a master plan’s mandates. Johnson writes:

Call it swarm logic: ten thousand ants—each limited to a meager vocabulary of pheromones and minimal cognitive skills—collectively engage in nuanced and improvisational problem-solving. A harvester ant colony in the field will not only ascertain the shortest route to a food source, it will also prioritize food sources, based on their distance and ease of access. In response to changing external conditions, worker ants switch from nest-building to foraging to raising ant pupae. Their knack for engineering and social coordination can be

downright spooky—particularly because none of the individual ants is actually “in charge” of the overall operation.<sup>24</sup>

Ant colonies can achieve amazingly complex operations not by imposing a pre-set rational order on behavior, but by providing an environment where the numerous separate actions can develop a logic of their own and take on a larger form.

### *The Complexity of Cities and Regions*

Human settlements are, of course, more complex than ant colonies, but they share the basic truth: Order comes from numerous separate actions in a system that allows those actions to come together in complex and subtle ways. The marketplace is the most familiar human system of order arising from the disparate actions of the many. Producers, suppliers, shippers, sellers, and buyers all act independently, with no conscious concern for creating a harmonious order, and yet order emerges if the many actors operate in a context that provides a few simple rules. Adam Smith famously attributed the order of the marketplace to the “invisible hand,” a phrase that suggests some kind of guidance behind the order but acknowledges that such guidance cannot be pointed to.

Neighborhoods are another system of separate actions creating a larger order, as noted by the “human ecology” school of the University of Chicago. Sociologists at Chicago—Robert Park, Ernest Burgess, Louis Wirth, and others—show that the infinite variety of the city sorts itself out when individuals and groups act according to influences of ethnicity, race, class, taste, age, and education.<sup>25</sup> No one could design a neighborhood as intricate, durable, or adaptive as Boston’s North End or Jamaica Plain. These places are products of the decisions of the individuals who live, work, visit, or pass through, as well as the decisions of people outside the neighborhood. At times—when the factors noted above combine in dangerous ways—these neighborhoods have been unhealthy places for people to live. At many other times, these neighborhoods have been great places to live.

As Greater Boston moves into a new century, the central question of public policy is what kind of order the region needs to address its many challenges. The choices available to the region fall along a spectrum. At one end of the spectrum lies the strategy of centralized policymaking. At the other end of the spectrum lies a *laissez faire* approach. Somewhere in the middle is the strategy of setting a few strong rules or goals for all communities but allowing the intelligence of separate actors to create their own regional order.

### *The Appeal of Comprehensive Planning*

At first glance, the centralized approach seems to make the most sense. Many problems do not seem solvable at the local level. Housing is a classic example. The cost of housing has escalated across the region, causing families of modest means to hopscotch from one community to the next in search of units that are affordable. Part of the problem is that some communities take explicit steps to block production of new housing, especially for low-income families. Cities like Boston and Cambridge bear a disproportionate burden for building housing because other cities and towns avoid the problem altogether. How can the housing problem be solved without a state or regional policy that dictates the creation of affordable housing in all communities?

Transportation is another problem that appears solvable only at the state or regional level. The problem, after all, is that systems for moving people across the region are inadequate. Because the population has spread out from the “hub” of Boston to the “periphery” of MetroWest and the South Shore, people need new ways to get to jobs, schools, shopping, and various community and family events. If getting from Hingham to Framingham is the problem, should not an entity that embraces the two places be responsible?

The environment is yet another problem that invites a statewide or regional intervention. Pollution knows not the boundaries of cities and towns. Dirty air and water move throughout the region according to the climatic conditions of many separate communities and the flows of rivers and harbors that touch several communities. Even place-specific environmental problems, like brownfields, can be traced to the actions of entities larger than any city or town. How can the problems of the environment be addressed absent a regional strategy?

Regional problems often require some kind of regional strategy. But the question is what kinds of regional solutions offer the best strategy to confront the problems—and encourage creative approaches and avoid unwelcome side effects.

One approach to regionalism, which might be called command-and-control, would establish strong central authority at the state or regional level. This central authority would mandate particular kinds of behavior and proscribe other kinds of behavior. The central authority would also provide resources rather than requiring local communities to raise their own fiscal resources.

Some advocates of central planning would recreate the State Office of Planning, which directed local planning efforts under the first Dukakis Administration. Others would give real authority over land use, transportation, and the environment to a regional planning body like the Metropolitan

Area Planning Council. The planning body presumably would have the power to adjust local zoning, direct housing to favored sites, develop regional transportation systems, and manage parks and natural spaces. It could also have the power to coordinate regional policies for other issues, such as public education, recreational facilities, and culture and the arts. However the central planning body were constituted, it would have the capacity to override local preferences in support of broader regional goals. It could override the NIMBY actions of localities in the siting of schools, housing, hospitals, train lines, bus sheds, parking garages, and the like. It could also pool resources and broker creative land swaps to encourage desirable development or preservation projects.

In imagining what a regional planning body might look like, it might make sense to look at existing regional authorities and projects. The Massachusetts Water Resources Authority played a critical role in the cleanup of the Boston Harbor and the creation of a network of sewered communities. Massport runs Logan Airport and the Port of Boston and coordinates a number of development deals in East Boston and beyond; more recently, it has overseen planning efforts to coordinate air travel in Massachusetts, New Hampshire, and Rhode Island. The Massachusetts Turnpike Authority not only runs Interstate 90 but also oversees the construction of the Big Dig. A newer regional body, Telecom City, has coordinated the development of a 200-acre site as a new high-technology community on land provided by Malden, Medford, and Everett.

These regional bodies have proved successful in promoting their distinct agendas, but critics wonder if they offer the kind of latitude and creativity that might be desirable for a region in flux.

The MWRA, for example, operates a massive sewage treatment plant on Deer Island that serves 43 communities. The plant is an engineering and operational marvel, but critics say that its comprehensive approach to water management undermines important environmental goals. Water experts say that water and sewage should be managed on the local level to foster more environmentally sound practices, but the MWRA's regional approach undermines such localism. The MWRA system also acts as a *de facto* land-use planning system. Communities that are not part of the system cannot offer enough water service to accommodate large-scale development; the greatest impact of the MWRA might be to direct development from non-MWRA communities to MWRA member communities. This steering of development to MWRA communities might be desirable from a regional planning perspective, but it might not as well. It is an unintended consequence of comprehensive planning in water and sewer management.<sup>26</sup>



Take the Mass Pike as a second example. The Massachusetts Turnpike Authority was created in 1952 to build the highway that would become part of the Interstate Highway System. Long after the construction of the highway has been paid off, the authority continues to charge tolls for use of the highway. Those tolls not only pay for upkeep of the highway (which critics say would be amply supported by the revenues from rest stops) but also helps to pay for the multi-billion-dollar Big Dig project. Critics say the uses of toll revenues distort the authority's fundamental purpose. The subsidization of the Big Dig is especially troubling from a policy perspective; drivers on the east-west Mass Pike should not have to subsidize the completion of an expensive north-south Interstate 93, while I-93 drivers glide in and out of the city without getting nicked. The availability of funds from the authority seems a godsend to managers of the Big Dig who must cover billions in cost overruns. But the arrangement is unfair and undermines efforts to impose fiscal discipline on the project.

Finally, consider Telecom City. This joint venture of three cities appears to operate on the best intentions of regionalism. Malden, Medford, and Everett share an interest in leveraging their assets to foster economic development. By creating a new development entity to recruit high-technology firms to the area, the cities hoped to bring good jobs to the area and strengthen the property values and character of their residents. The communities successfully lobbied for federal funds and began to develop plans not only for an office park but also open space, transit connections, and housing. But the master-planning approach has faltered. Residents of the three cities resisted the idea of building new housing, and then the high-tech industry suffered a downturn. Telecom City officials are now considering whether they should accept other kinds of development. Critics say the Telecom City experience shows the difficulties of large-scale planning. Rather than laying a strong foundation for whatever kinds of development the marketplace found desirable, the Telecom City effort tried to take a hands-on approach to development.

If Greater Boston created a regional planning body with real authority over land use, transportation, and the environment, that body might experience the same kinds of opportunities—and problems—as these three smaller-scale bodies. Large-scale planning might undermine incentives to behave responsibly at the local level, as critics say has happened with the MWRA. It might undermine fiscal responsibility, as critics say has occurred with the Mass Pike and the Big Dig. It might also encourage the tendency to “pick winners,” as critics say has characterized Telecom City's unsuccessful efforts to create a new high-tech center north of Boston.

### **‘Emergence Regionalism’**

What, then, might a sensible approach to regionalism look like? For a hint, return to the notion of “emergence.”

A system of “emergence regionalism” would establish a relative handful of simple but strong rules to guide the innumerable decisions of individual actors—and then back off and let those individuals create their own order and rich networks rather than trying to impose a single order. The state would establish clear rules and processes for highways, transit, housing, open-space protection, economic development. Those rules and processes would establish the parameters of policy for local governments, but otherwise leave local governments alone. Those rules and processes would establish the parameters of economic decision making, but otherwise leave developers and businesses alone.

To attack the region’s housing crisis, for example, emergence regionalism would streamline the state’s far-flung building codes into one consistent, legible code. It would establish simple zoning mandates that allow multi-family housing to be built in communities all over the state. The state also would identify publicly owned parcels of land and dispose of them quickly for housing development. A simple swap could be offered: free land to developers willing to commit one-third of their units on any site for below-market rents.

Emergence regionalism would seek to understand how the state’s capital budgeting process could give priority to projects that foster connections among cities and towns. Right now, the legislature authorizes projects that far exceed the state’s annual \$1.1 billion debt ceiling. The result is that the state’s Executive Office of Administration and Finance decides which projects actually get financing, while many local projects languish. By establishing clear standards for which projects get approval, including joint projects involving several localities, the Office of Administration and Finance’s process could be more coherent—and less political—while encouraging localities to develop regionally smart projects.

On transportation, the state could also establish simple principles that provide a broad context for decisions by local government and private firms. Rather than using a state authority to create expensive, fixed-rail transit that serves a limited number of people, the state could offer resources for localities to develop their own regional transit network. Following the model of Curitiba, Brazil, a consortium of localities might get together to provide frequent and inexpensive bus service along a densely populated corridor.<sup>27</sup> A regional transportation network might involve “smart” vehicle systems. It might involve jitney connections to existing public transportation corridors. It might involve ride-sharing incentives at critical gateways or portals. It might

involve peak-period pricing and high-occupancy vehicle incentives for highways. It might involve incentives for dense housing and retail development near existing transit nodes. It might involve incentives for four-day work weeks and commuting/telecommuting arrangements. It might involve such creative parking and transit packages as pioneered by King County, Washington.<sup>28</sup>

The point is not to impose any one system for relieving traffic congestion and associated ills of automobile-dependency. Only by laying a clear set of parameters for transportation management—and then allowing a wide range of public and private agents to adopt their own approaches that fit inside those broad parameters—can Greater Boston develop creative and affordable alternatives to top-down, command-and-control approaches to public policy.

Information technologies offer powerful new means to drive policy that achieves regional results locally. Traditionally, environmentalists have attacked water pollution and other challenges by going after the “big pipes,” that is, sources of pollution that are easy to identify such as wastewater treatment plants and factories. But pollution comes from many sources, and cleaning up rivers requires close monitoring of pollution throughout a watershed. In recent years the Charles River Watershed Association has developed a comprehensive monitoring system for water quality that has enabled government agencies and others to attack the problem at multiple sources. “The ability to measure environmental conditions in ‘real time’ and at frequent enough geographic intervals to trace an impact to a particular source makes the information ‘actionable,’” writes Fara Courtney.<sup>29</sup> When the information is shared widely, everyone is put on notice—the public, private and nonprofit organizations, and government agencies. As Baltimore has discovered with its use of CitiStat, such real-time information can drive good policy and management at all levels.<sup>30</sup>

Some policy areas require strong regulation, but can be enhanced by encouraging local initiative. Standards for clean air and water are set by the federal government, and Massachusetts sometimes sets even higher standards. But the state can enhance federal policy by encouraging strong local and private action. Brownfields offers one good example. Brownfields are usually expensive to clean, and require considerable incentives to make them acceptable for reuse. But the state can provide incentives to make cleanup easier, by combining dirty properties with clean properties in development deals, by reducing legal liability for owners of property contaminated by previous owners, and by allowing new forms of containment. The state’s best policy for brownfields might be to establish a complete menu of possibilities for reuse of land rather than mandating a single remediation strategy.

On some issues, state and regional entities might acknowledge that the best policy is no policy. Recycling offers the greatest potential for local action. Cities like Worcester have transformed themselves from worst to best by adopting unit-price systems for garbage pickup. Other cities and towns have adopted less successful approaches. Rather than mandating the Worcester approach, the state's best approach might be to continue to offer real rewards for performance and provide technical assistance.<sup>31</sup> Or perhaps the state should simply sit back and let cities and towns sort through their own garbage-disposal issues. Some critics have found sorting refuse from recyclables offers limited environmental benefits; those skeptical voices at least should be considered.<sup>32</sup> Even if recycling makes sense, it might come of its own accord, without top-down pressures. As the cost of landfill and carting increases, cities might have enough incentive to adopt local policies that cut back on household garbage production.

At the center of emergence regionalism is the simple imperative to "do no harm." A regional body would lack essential knowledge of local conditions and longterm consequences of comprehensive policies. Better to ruthlessly eliminate the policies and regulations that impede positive solutions than to pile on new policies that make implementing policy more difficult. The do-no-harm imperative of emergence regionalism is not a passive approach, but rather a demand that the creativity of the many be given a chance over the heavy hand of the few.

## 2. *Thinking Like a Region: Historical and Contemporary Perspectives*

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*James C. O'Connell*

ON A CLASSIC CLEAR AND COOL NEW ENGLAND SUMMER weekend in June of 2001, more than 70 architects, planners, developers, government officials, and community advocates from Greater Boston spent 12 hours conferring and debating about possible solutions to problems of economic growth. Working in small groups, gathering around a wall of newsprint seven feet by 15 feet in size, prodded by “facilitators,” these professionals and activists sought nothing less than to define a new strategy of regionalism for one of the oldest metropolitan areas in the United States.

This “Future Search” event was the culmination of a year-long series of workshops and conferences sponsored by the Boston Society of Architects. The BSA’s Civic Initiative for a Livable New England attracted representatives from scores of communities and organizations across the metropolitan area. The event at Harvard University’s John F. Kennedy School of Government was the ultimate brainstorming session. The participants explored the challenges of affordable housing, transportation, development, the environment, education, and taxes. Some argued for the creation of a new metropolitan government that could take a comprehensive approach to confront the ills of sprawl, like traffic congestion, homogenization of community, loss of farmland. Others argued that the Boston area already had the tools it needed to address sprawl, primarily at the state level of government but also in the cities and towns where development issues are generally settled.

Some argued that the production of new affordable housing could never be realized unless every city and town was induced to produce its share of low-cost housing for the whole region. Others focused on how the “American Dilemma” of race fragmented the Boston area; racial and class exclusiveness, these participants said, was the root cause of middle-class abandonment of urban school districts and the development of newer suburban communities beyond Route 128 toward Interstate 495. Still other participants said

property tax-sharing is essential to remove the tendency of cities and towns to seek new tax revenues through commercial development.

The most prominent idea of the Future Search was mixed-use, transit-oriented development. The ideal of the classic “urban village”—the self-sustaining clusters of a variety of businesses, civic spaces, and housing, built around transit stations—was extolled for its promise of reducing waste in the use of land and natural resources, creating more units of affordable housing, and providing more shopping and work options for residents. But just how to define urban villages, and what kinds of political strategies and policy tools might help develop them across the region, provoked confusion and debate. Some critics feared that mixed-use development might mean imposing commercial districts in long-time residential areas—which undoubtedly would create a backlash among those bedroom communities. Other critics challenged the urban village advocates to show vividly what such development would look like. Greater Boston’s classic villages—Central Square and Harvard Square in Cambridge, Davis Square in Somerville, Brookline Village and Coolidge Corner in Brookline—might require new strategies to create in the 21st century. It is one thing to maintain and improve old-style villages, quite another to create them anew.

In the final stage of the Future Search, participants discussed how to implement the recommendations that had been advanced at the gathering. Committees were formed to explore specific approaches to issues like transportation, housing, and the environment. The idea of regionalism was central to the entire discussion, as participants called for addressing each major issue on a metropolitan basis. Participants talked about regionalism as both a state of mind and a structure for dealing with growth-related problems.

In recent years, regionalism has been a more prominent part of the political and policy dialogue of Greater Boston. As concerns about sprawl increase, some Bostonians think it may be time to learn from the regional “smart growth” initiatives in Portland, Seattle, Salt Lake City, Silicon Valley, and other metropolitan areas. The most noteworthy example of growth management in New England is the Cape Cod Commission, a regional planning agency with the authority to regulate large development projects. The Metropolitan Area Planning Council (MAPC), a state chartered agency charged with developing regional approaches to policy but which enjoys little real power, is updating its “MetroPlan” to create a guide for regional development. Perhaps most important, after passage of a special taxing powers for localities called the Community Preservation Act, cities and towns across Massachusetts are debating whether to pass new surcharges on property taxes to build affordable housing, preserve open space, or fund historic preservation.

Even with housing, an issue where municipalities traditionally protect their prerogatives, several advocates and academics have called for a regional strategy. The Catholic Archdiocese of Boston, building on a study by Northeastern University's Center for Urban and Regional Policy, has advocated building 35,000 affordable units over and above current construction rates in Greater Boston in the next five years. The Citizens Housing and Planning Association has been working with advocates and academics to forge a regional coalition to implement a regional affordable housing strategy and to confront the segregation of poor people in older urban communities.

Regionalism was the subject of a state commission authorized in 1996. As Governor William F. Weld was proposing the abolition of counties, the state legislature established a Regionalization Commission to explore strategies for cities and towns to collaborate on delivering services and undertaking large-scale projects. Boston Mayor Thomas M. Menino, who had originally called for the commission, served as chair and funded half of its expenses. The study covered the 122 communities of Suffolk, Norfolk, Middlesex, and Essex Counties. The main recommendations of the commission's 1997 report included establishing an economic development forum to develop a regional development strategy, creating new means of sharing responsibility for some municipal services, and considering creation of a council of governments (COG) to provide ongoing administration for shared services.

Sharing municipal services was considered a good first step for regionalism because it was voluntary and non-controversial. A survey included in the report discovered that Greater Boston voters disliked the concepts of "regionalization" or "regional government," but looked favorably on "cooperative action," especially if it saves money. The MAPC developed strategies for cooperative purchasing and municipal employee training, but other recommendations were forgotten.

The pressing regional issues of land use regulation, affordable housing, and infrastructure funding are much more complex and controversial. The Regionalization Commission did not touch upon these issues. Regional efforts to grapple with them have been fragmented and sporadic.

## **Boston's Development as a Region**

Throughout history, Greater Boston's size and complexity have made it difficult to create a regional strategy for addressing economic growth, transportation and other infrastructure needs, and social problems like housing and social services.

Contemporary Greater Boston comprises most of Eastern Massachusetts, except Cape Cod, the Islands, and the area of New Bedford

and Fall River. Boston has been the political, economic, and cultural center for Eastern Massachusetts since its founding as the Puritan “city upon a hill” on September 7, 1630. During the seventeenth and eighteenth centuries, Puritan congregations fanned out from Boston to establish new communities across the region. At the time of the Revolution, Eastern Massachusetts towns were connected by their Committees of Correspondence and the Minutemen militias. Though not suburbs in the contemporary sense of the word, Concord, Braintree, Wayland and other communities outside the City of Boston were tied to the political, economic, and social life that emanated from Boston. As the historian David Hackett Fisher has noted, the thickness of social networks from Boston to Lexington and Concord made Paul Revere’s famous ride successful.<sup>1</sup>

The communities surrounding Boston first developed suburban characteristics in the 1820s, as businesses and farms in Cambridge, Somerville, and Watertown became virtual extensions of the Boston market. Commuting by railroad increased dramatically between 1845 and 1860, when the numbers of Boston workers living outside the city grew from a few hundred to 10,000.<sup>2</sup> During the same years, factory towns funded by Boston banks and other sources of capital appeared along the waterways of Eastern Massachusetts, particularly the Merrimac River and the Charles River.

Between the Civil War and the turn of the nineteenth century, railroads and streetcars enabled Boston’s urbanized area to expand into approximately forty communities surrounding the core city. Affluent Yankee businessmen and professionals retreated to such suburbs as West Roxbury, Brookline, Newton, Belmont, and Wellesley to escape the immigrants, industrialism, and pollution of the teeming city. The physical legacies of this era are the suburban town centers—in today’s argot, urban villages—built around railroad stations and the nearby clusters of Victorian houses. Large-scale industry also fled Boston in search of more space and cheaper real estate in Lynn, Somerville, Chelsea, and Cambridge. Several dozen radial railroad and streetcar lines connected the downtown area of Boston with surrounding communities. During this era, Boston was truly the “hub” of a burgeoning metropolitan area—if not the hub of the solar system, as Oliver Wendell Holmes would state ironically.

In the late nineteenth and early twentieth centuries, sub-regions developed on the North Shore and South Shore, with resort towns developing in Cohasset, Nantasket, Nahant, and Manchester-by-the-Sea (and eventually becoming commuting suburbs). A swath of affluent residential suburbs appeared in the western communities, including rural-style enclaves such as Weston and Lincoln. A pocket of middle- and working-class suburbs



developed to include Medford, Malden, Melrose, Stoneham, Wakefield, and Winchester. Between 1890 and 1940, the fastest growing area of metropolitan Boston consisted of the communities that lie from four and nine miles outside of downtown Boston. Nevertheless, Boston remained the focus of the region, politically and economically.

Post-World War II highways transformed the region, gradually making the central city less important. The construction of Route 128, a circumferential road ten miles from downtown, spurred the change, as the most innovative technology businesses moved to the suburban periphery during the 1950s. Postwar suburbs like Norwood, Westwood, Wilmington, and Reading boomed with the completion of Route 128. Framingham and Burlington became “edge cities.” Between 1950 and 2000 Framingham’s population grew from 28,086 to 64,359 and Burlington’s grew from 3,250 to 23,920.

By the 1980s, development leapfrogged another fifteen miles to the Interstate 495 corridor, where the region’s fastest growth is currently taking place. During the 1990s, the population of Boxborough grew by 45.6 percent, Hopkinton grew 45.2 percent, Franklin 33.8 percent, Southborough 32.5 percent, Mendon 31.8 percent, and Westborough 27.3 percent. The Massachusetts Turnpike, Interstates 95 and 93, Route 3, and other highways have filled out a transportation network that serves an increasingly decentralized Greater Boston region. Though it remains a vital and compelling city, Boston itself plays a less important role in the region, as economic and cultural activity has become spread widely across all of Eastern Massachusetts. The population of the City of Boston in 2000 was 589,141, while the population of the 1999 Boston-Worcester-Lawrence-Lowell-Brockton Consolidated Metropolitan Statistical Area (CMSA) in Eastern Massachusetts and southern New Hampshire was 5,901,589.

Greater Boston has not grown by simply spreading out from the core, as has been the case in the Sunbelt. What distinguishes Boston from other regions is that towns with established identities, which cannot easily be subsumed by larger entities, surround the central city. During the nineteenth century, canals, turnpikes, and railroads tied the communities more closely together, with urbanization occurring mainly in the vicinity of the railroad stations. During the auto age, development has appeared in the open areas between town centers and along highways, creating the classic car-oriented sprawl. As the communities have grown more metropolitan, even urban in character, they have maintained their strong traditions as individual towns and resisted regional approaches to economic growth and development. In contrast, the Sunbelt pattern of growth spreading out from the core has made easier the annexation of outlying areas and the imposition of county or metropolitan government.

U.S. Census Bureau data show how the metropolitan area grew in the twentieth century. In 1910, the Boston Metropolitan District had 1.97 million people living in 37 municipalities. Forty years later, the U.S. Census Bureau reclassified Metropolitan Districts, which had included central cities and their contiguous suburbs, into the Standard Metropolitan Areas (SMA's), which include the urbanized area around multiple urban centers; this classification acknowledges the "polycentric" character of regions in the age of the automobile. Greater Boston was rapidly becoming part of a "megalopolis" stretching from Boston to Washington, D.C. In this megalopolis, networks of highways, railroads, airways, and telecommunications systems provide a common ground for overlapping systems of commuting, shopping, and business that extend down the eastern seaboard.

The 1950 Boston Standard Metropolitan Area included 2.34 million people living in 65 municipalities. The rapid growth outside the urban core would continue for the next half century, while the core lost population for decades before achieving minor increases toward the end of the twentieth century. In 1980, the U.S. Census applied the concept of the Consolidated Metropolitan Statistical Area (CMSA), which incorporates two or more contiguous metropolitan areas. Under this classification, Boston's Primary Metropolitan Statistical Area (PMSA) had 2.81 million people in 106 communities, while the CMSA had 169 communities and 3.97 million people. Today the Boston CMSA has a population count of 5.9 million in 280 communities in four states.

Since World War II, the automobile has driven the geographic expansion of Greater Boston. The spreading metropolitan area reflects a radical deconcentration of population, which has made Greater Boston a less densely settled region than sprawling Los Angeles. The Boston CMSA is made up of the following Primary Metropolitan Statistical Areas (PMSA): Boston, Massachusetts and parts of New Hampshire; Brockton, Massachusetts; Lawrence, Massachusetts and parts of New Hampshire; Lowell, Massachusetts and parts of New Hampshire; Fitchburg-Leominster, Massachusetts; Worcester, Massachusetts and parts of Connecticut; New Bedford, Massachusetts; Portsmouth, New Hampshire and parts of Maine; Nashua, New Hampshire; Manchester, New Hampshire. This does not include the PMSA that includes Providence and Warwick, R.I., and Fall River, Massachusetts, which would bring the greater region's population close to 7 million. Cape Cod, Martha's Vineyard, and Nantucket, though sometimes considered part of Greater Boston, are counted as separate regions by the U.S. Census.

The sheer geographic size of Boston's metropolitan region makes it difficult to understand the entire region in a meaningful way for policy-making

and cultural identity. Those trying to address the issues of regional identity, transportation, economic development, housing, and environmental protection should probably focus on the Eastern Massachusetts communities in the Boston, Lowell, Lawrence, and Brockton PMSA's.

### *Controversies Over Regionalism in History*

The City of Boston has long driven the regionalization debate. After the Civil War, civic leaders were apprehensive about the suburban exodus of the affluent, growing Irish political power, and diminished community prestige. They sought to annex surrounding communities. For almost a half-century, many citizens in urbanizing communities around Boston wanted to merge with the city to obtain street, water, sewer, and educational services. Boosters thought a bigger city would be better for business and bragging rights. Roxbury voted to be annexed by Boston in 1868; Dorchester merged with Boston in 1870; Charlestown, Brighton, and West Roxbury all joined the city in 1874. Brookline halted the movement that same year when its citizens voted not to join Boston. Satisfied with its infrastructure, fearing high taxes, and reluctant to give up its independence, Brookline opted to remain an independent town. Factions in Cambridge also sought a merger with Boston, but they never gained a majority. Hyde Park was the last town to approve merging with Boston, in 1912, but by that time the annexation movement was over.

In the following years, suburban communities grew to fear the immigrants, machine politics, messy industrialization, and high taxes. Middle-class families living in outlying communities viewed small-town life, with its participatory town meeting, low public expenditures, and social homogeneity, as desirable. They preferred a home life that had the rural moral qualities. Boston was the earliest large city to halt annexation and accede to municipal fragmentation. Other large American cities, particularly in the South and West, continue to annex outlying areas to this day.

As the Boston metropolitan area mushroomed in the late nineteenth century, the state established three specialized metropolitan agencies to manage regional infrastructure needs. These agencies were national pioneers in a different kind of regional government. The first was the Metropolitan Sewerage Commission, established in 1889 after fifteen years of debate. Sewerage made a logical starting point for regional government. Coordination was needed to prevent communities from dumping untreated sewage into rivers, polluting drinking water and endangering public health. Water and sewerage offered a quintessential regional issue; polluted water does not stop at an arbitrary city or town border.

In 1895, the state established the Metropolitan Water Board to provide the water supply to the region that the City of Boston had formerly provided. In 1901, the Water and Sewerage Boards were combined. The state-authorized metropolitan authority was a popular efficiency measure with suburban Yankees who feared wasteful spending and mismanagement by Boston's Irish machine politicians. Its directors were appointed by the governor, as opposed to being elected by an increasingly ethnic electorate. Another measure by the state to control Boston government was the state-named Municipal Finance Committee, which oversaw the City's financial affairs and curtailed home rule for decades.

Perhaps the most noteworthy regional achievement of the period was the creation of the Metropolitan Park Commission. The rapid suburban growth of the 1880s and 1890s consumed much open space and destroyed many Greater Boston natural beauty spots. Setting aside park land was a great urban reform of this era. In 1896, landscape planner Frederick Law Olmsted started consulting with Boston on green space planning, including designing Arnold Arboretum, the Fens, and Franklin Park. His efforts culminated in 1887 with the Emerald Necklace plan connecting the Boston Common with Franklin Park. The Trustees of Reservations, created in 1891, became the first private organization to work to preserve scenic and historical places around the state.

Landscape architect Charles Eliot (son of the Harvard University president of the same name) and journalist Sylvester Baxter promoted the idea of a Metropolitan Park Commission to use public funds to protect open space. In 1893, the state legislature established the Park Commission. The Park Commission used eminent domain to acquire five reservations with 7,000 acres during its first year. By 1902, the Park Commission managed 15,000 acres, including Revere Beach, the banks of much of the lower Charles River, the Blue Hills, Middlesex Fells, and twenty-two miles of right-of-way for parkways (today, 20,000 acres and 162 miles of parkway). The Metropolitan Park Commission created one of the great metropolitan park and parkway systems in the country. The MPC avoided much city-suburban wrangling by operating with a small board of five commissioners named by the governor.

By 1919, the state consolidated the Metropolitan Park Commission with the Metropolitan Water Board and Sewerage Commission to become the Metropolitan District Commission. The most noteworthy achievement of the consolidated MDC was the creation of the 39.4-square-mile Quabbin Reservoir fifty miles west of the city to provide a metropolitan water supply. In 1952, the legislature authorized the MDC to build and manage a refuse disposal plant serving seventeen municipalities. The MDC and the

municipalities could not agree upon the project and the bonding power lapsed. That was the last time the MDC was considered a vehicle for new initiatives.

The water and sewer concerns were split from the MDC in 1984 with the establishment of the Massachusetts Water Resources Authority, which provides water and sewer service in communities at the core of Greater Boston. The MWRA has an eleven-member board made up of the Secretary of Environmental Affairs, four governor's appointees, three appointees of Boston's mayor, and three representatives of the MWRA Advisory Board. The Advisory Board has representatives from each town in the service area. The MDC's Division of Watershed Management was given responsibility to manage Quabbin Reservoir and the agency's other water supplies, while the MWRA distributes the water supply and treats the sewerage. Under federal court order, the MWRA has constructed a \$3.6-billion comprehensive sewerage treatment system to facilitate the cleaning of Boston Harbor.

Public transit in Greater Boston also eventually came under the direction of a public authority. In 1931, the legislature established the Metropolitan Transit District to assume financing obligations for the Boston Elevated Railway Company, which operated Boston's transit system in fourteen cities and towns. In 1947, the state bought the Boston Elevated Railway and placed the system under the Metropolitan Transit Authority. By 1964, the transit needs had grown in terms of investment and geography, so the state transformed the MTA into the Massachusetts Bay Transportation Authority. The MBTA today provides subway, bus, commuter rail, and boat service in 175 communities. The MBTA is run by a seven-member board named by and serving coterminously with the governor. Each community in the MBTA service district has a seat on the Advisory Board, which has limited powers of approving the annual budget and hiring of the agency's general manager.

In 1956, the state legislature established yet another regional agency, the Massachusetts Port Authority (Massport), to manage the Port of Boston, Logan International Airport, and the Tobin Bridge. Today Massport also manages Hanscom Field and Worcester Airport. Massport, with a seven-member board named by the governor, has emerged as a powerful force in determining transportation policy in Boston and in promoting exports. Massport maintains its fiscal independence by relying on user fees and revenue bonding. Massport and the other state-established public authorities are closely tied to state government and the governor's administration, though they are not administered directly by the state. The region's municipalities have little say in policy or day-to-day administration.

### *The Debate Over Metropolitan Government*

A century ago, as the Commonwealth of Massachusetts established special-purpose metropolitan authorities, Boston and its surrounding communities debated the possibility of creating a comprehensive metropolitan government. In 1896, a legislative commission rejected a proposal for creating a “super-city” of Boston through annexation of suburbs and instead recommended creation of a new County of Boston government based on the Greater London County Council. The County of Boston would have had central administration for sewerage, water, parks, and possibly roads and public transportation. The County of Boston would have been made up of forty communities in Suffolk County and parts of Essex, Middlesex, and Norfolk Counties. After reviewing the Commission’s proposal, the legislature let the matter die. Existing county officials and many outlying municipalities opposed metropolitan government because they did not want to give up any authority.

As Greater Boston continued to grapple with economic, infrastructure, and governmental problems, progressive leaders revisited the idea of metropolitan government. In 1907, the state established a Metropolitan Improvement Commission to study transportation improvements, maintaining the commercial vitality of Boston’s waterfront for shipping, and creation of a monumental civic center. One of the transportation recommendations was Arthur Shurtleff’s proposal for a circumferential road around Boston connected to the center with a web of radial roads. This plan ultimately led to Route 128 and the region’s highway system.

The high point of metropolitan sentiment was the “Boston—1915” campaign, initiated in 1909 by Edward A. Filene, Louis Brandeis, and James Jackson Storrow. The business-oriented champions of metropolitan government—inspired by the City Beautiful and City Functional movements sweeping America before World War I—wanted Greater Boston to use metropolitan government and scientific management to create the best planned, most prosperous, and most socially stable city in the country. Though criticized as Utopian by some, the “Boston—1915” plan recognized that social and economic problems threatened Boston’s viability and required far-reaching solutions.

In 1911, the state legislature created a special commission to respond to these proposals. The commission was made up of Filene, architect J. Randolph Coolidge, Jr., and nationally renowned planner John Nolen. The Commission’s final report proposed a metropolitan planning board for Boston and thirty-seven surrounding communities. The board’s purview would have included zoning, transportation, beautification, and

parks. The board would have had power to approve municipal plans and evaluate them in terms of a metropolitan plan. The primary incentive for surrounding communities to participate was funding from the metropolitan commission for a portion of local improvements. According to urban historian Mel Scott, Boston's metropolitan plan was the most ambitious and well-researched metropolitan planning effort in the country at a time when Progressive planning efforts were at a peak.<sup>3</sup>

The Boston Chamber of Commerce supported a metropolitan planning board in its report *'Real Boston': The 'Getting Together' Spirit Among Cities and Towns* (1911). The Chamber argued that "real" Boston included 1.5 million inhabitants and forty municipalities stretching from Salem to Cohasset and including Lincoln, Lexington, Wayland, Framingham, Sherborn, and Canton. Boston Mayor John F. "Honey Fitz" Fitzgerald, seeking to strengthen the services and fiscal health of the central city, also supported the metropolitan scheme.

Within a few months of the commission's 1912 report, however, suburban legislators killed the metropolitan government plan. Communities led by the affluent suburbs of Brookline and Newton refused to participate. The metropolitan plan seemed anti-democratic and its purported benefits doubtful. After this, the steam ran out of the metropolitan vision and the "Boston—1915" movement.

Part of the reason that metropolitan government did not seem attractive to suburban communities was that they no longer needed Boston to obtain high-quality public services. Prior to 1900, metropolitan government had seemed attractive to suburbs because it was a way of providing Boston's up-to-date infrastructure services to communities that lacked the capacity. Afterward, the many suburbs developed a wide range of municipal services that they were able to provide with greater efficiency than the machine-plagued central city government.

In 1930, at the beginning of the Great Depression, Mayor James Michael Curley proposed a metropolitan scheme that would have federated Boston with forty-three surrounding communities and required them to pay their share of the region's public improvements. This proposal would have concentrated more power with the Boston Mayor than the "Boston—1915" plan. A hostile legislature rejected the Curley proposal. A Cambridge official saw it in personal terms, telling the *Boston Post* (February 11, 1930) that: "Metropolitan Boston is Curley gone Napoleon." During the 1930s, the state was at constant loggerheads with the City of Boston, whether the Mayor was Curley or someone else, about construction and employment programs, always seeking to curtail perceived corruption and excessive

spending. The Democratic-Republican and Irish-Yankee conflicts that rent Massachusetts politics for decades ended up pitting Boston against the suburbs and poisoning efforts to undertake regional initiatives. A forty-year economic downturn, from 1921 until 1960, made resources scarce and intensified political tensions over regional cooperation.

While Boston was balking at regional planning, New York City assumed leadership in the field while avoiding creation of an integrated metropolitan government. The New York Regional Plan Association, a private non-profit civic association with substantial business backing, published its first regional plan in 1929. New York's "master builder," Robert Moses, working through independent public authorities, implemented many of the transportation, recreational, and housing elements of the plan over a twenty-five-year period.

The idea of metropolitan government did not go away in Boston. In 1944, Boston was seeking to revive its economic fortunes, and the Boston Society of Architects initiated the "Boston Contest of 1944" to obtain ideas. The winning proposal came from Harvard political science professor Carl Friedrich, who argued that the metropolitan area had become "ill, decaying at the core, because its vitality has not been a common concern of all those having a stake in it."<sup>4</sup> Friedrich proposed that all communities within a twenty-five-mile radius of Boston should become part of the Boston Metropolitan Authority. The proposed Metropolitan Authority would use a city manager form of government with a legislative council that organized existing municipalities into districts.

Metropolitan government continued to exert an appeal. One historian notes: "The intellectual elite and many of the businessmen of the Boston area probably yearned more intensely for metropolitan planning and metropolitan government than community leaders anywhere else in the United States, partly from a sense of frustration."<sup>5</sup> The suburbs remained unsupportive of regionalization, with about 70 percent responding that the "Boston Contest" proposal was only another approach to annexation. After the "rascal king" James Michael Curley won reelection as Mayor in 1945 while under indictment for mail fraud—as a supporter of the "Greater Boston" federation—the chance for legislative approval of regional government diminished to practically zero.

That was the last time that Boston area leaders seriously considered comprehensive metropolitan government. The purported benefits were simply not enticing to self-sufficient suburbs. Civic leaders began to focus on aggressive urban renewal within the municipal borders. The City of Boston moved forward with redevelopment efforts during the 1950s and 1960s and lost interest in regionalization. During the urban crisis of the 1960s, some reformers advocated sharing suburban tax resources for housing and education.



Suburbanites, however, opposed such initiatives. Many had just fled the decaying central city, and they regarded the urban ills of poverty, crime, racial strife, and physical decay to be irremediable.

At the same time, urban politicians across the country were wary of regional consolidation because they did not want to cede any power to the growing suburbs.

Mayor Kevin White proposed creating an Eastern Massachusetts Council of Governments—so named to make it more palatable to the Boston-phobic suburbs. When White lost his bid for governor in 1970, the proposal disappeared. San Francisco had pioneered the council of governments (COG) concept in the 1960s when it established the Association of Bay Area Governments, which has long supervised regional planning efforts. The city-county consolidations of the 1970s, which were taking place in Indianapolis, Nashville, and Jacksonville made no sense in Boston because county government was irrelevant.

The Metropolitan Area Planning Council (MAPC) was the one new regional institution to be established since World War II. It was intended to be strictly advisory. The Rev. W. Seavey Joyce of Boston College, a leader in Boston's redevelopment, used the Boston College Citizen's Seminar to advocate for creating a regional planning agency and became MAPC's first chairman in 1963. The 1962 Federal-Aid Highway Act required communities receiving federal highway funds to develop regional organizations to coordinate transportation planning. Municipalities agreed to join the MAPC to influence highway planning with state and federal officials and to obtain federal grants. Beyond that, they remained suspicious of ceding any powers to metropolitan agencies.

MAPC was a state agency between 1963 and 1971, when it became an independent organization with a board made up of municipal officials, state officials, Boston officials, and gubernatorial appointees. MAPC lost the opportunity to gain more clout in shaping transportation priorities when it was not designated the Metropolitan Planning Organization (MPO) under the 1973 Federal Highway Act; that responsibility, instead, went to the newly-created Central Transportation Planning Staff, which is closely connected to the State Department of Transportation. An opportunity was lost to coordinate transportation with land use and economic development planning. Since then, MAPC has developed an advisory regional plan and provided technical planning assistance to member communities.

## **The Parts of the Whole**

One way to develop a regionalism that suits Greater Boston's local sense of place would be to build on the shared interests of sub-regions, such as the

North Shore, South Shore, Metro West, and the Interstate 495 Corridor. In contrast with almost every other state in the union, Massachusetts counties have not been useful geographic or political territories for years. The regional planning areas and their sub-regions offer potentially more manageable subdivisions for understanding the challenges of development, transportation, housing, the environment, and related issues.

### *The Subregions of Greater Boston*

The Metropolitan Area Planning Council already sorts its 101 cities and towns into eight sub-regions (a few towns participate in two sub-regions, but only one affiliation is given here), whose elected officials meet regularly to develop policies for planning, transportation, and economic development issues. The sub-regions break down this way:

- *Inner Core:* Arlington, Boston, Belmont, Braintree, Brookline, Cambridge, Chelsea, Everett, Holbrook, Lynn, Malden, Medford, Melrose, Nahant, Newton, Quincy, Randolph, Revere, Saugus, Somerville, Waltham, Watertown, and Winthrop.
- *North Shore:* Beverly, Danvers, Essex, Gloucester, Hamilton, Ipswich, Manchester, Marblehead, Middleton, Peabody, Rockport, Salem, Swampscott, Topsfield, and Wenham.
- *North Suburban:* Bedford, Burlington, Lexington, Lynnfield, North Reading, Reading, Stoneham, Wakefield, Wilmington, Winchester, and Woburn.
- *Minuteman:* Acton, Bolton, Boxborough, Carlisle, Concord, Hudson, Lincoln, Littleton, Maynard, and Stow.
- *Metro West:* Ashland, Framingham, Marlborough, Natick, Southborough, Sudbury, Wayland, Wellesley, and Weston.
- *South West:* Bellingham, Franklin, Holliston, Hopkinton, Medway, Milford, Millis, Sherborn, and Wrentham.
- *Three Rivers:* Canton, Dedham, Dover, Foxborough, Medfield, Milton, Needham, Norfolk, Norwood, Sharon, Stoughton, Walpole, and Westwood.
- *South Shore:* Cohasset, Duxbury, Hanover, Hingham, Hull, Marshfield, Norwell, Pembroke, Rockland, Scituate, and Weymouth.

Except for the 23-community Inner Core, the number of municipalities per sub-region ranges from nine to fifteen. These groupings generally reflect historical affiliations, business and shopping sub-regions, media sub-markets, and high school rivalries. They provide a rough framework for people to

understand the area in which they live, work, shop, and socialize. Sub-regions of approximately fifteen communities allow for some measure of consensus-building and policy-making.

Other organizations help to coordinate planning outside the MAPC territory. The Old Colony Planning Council, based in Brockton, takes in fifteen communities stretching from Avon to Plymouth. They include Abington, Avon, Bridgewater, Brockton, East Bridgewater, Easton, Halifax, Hanson, Kingston, Pembroke, Plymouth, Plympton, Stoughton, West Bridgewater, and Whitman. The Old Colony area is one of the fastest growing areas in Greater Boston and can benefit from regional cooperation.

The Merrimack Valley Planning Commission, headquartered in Haverhill, provides a compact northern counterpart to Old Colony. Merrimack Valley has fifteen municipalities including Amesbury, Andover, Boxford, Georgetown, Groveland, Haverhill, Lawrence, Merrimac, Methuen, Newbury, Newburyport, North Andover, Rowley, Salisbury, and West Newbury. These communities, connected by Interstate 495 and Interstate 93, are some of the fastest growing parts of the metropolitan area.

Greater Lowell is the focus of the Northern Middlesex Council of Governments. This regional planning agency serves nine communities: Billerica, Chelmsford, Dracut, Dunstable, Lowell, Pepperell, Tewksbury, Tyngsborough, and Westford.

Southeastern Massachusetts is less in the orbit of Greater Boston, being centered on the urban centers of Fall River, New Bedford, and Taunton and connected to Providence. The Southeastern Regional Planning and Economic Development District (SRPEDD), based in Taunton, covers Acushnet, Attleboro, Berkley, Carver, Dartmouth, Dighton, Fairhaven, Fall River, Freetown, Lakeville, Mansfield, Marion, Mattapoisett, Middleboro, New Bedford, North Attleboro, Norton, Plainville, Raynham, Rehoboth, Rochester, Seekonk, Somerset, Swansea, Taunton, Wareham, and Westport.

The southern part of this district is sometimes referred to for marketing purposes as “The South Coast,” while the northern area is bisected by I-495 and is undergoing significant growth. Southeastern Massachusetts is considered a “new growth frontier” of Massachusetts. Fifty municipalities from the SRPEDD, Old Colony, and southern MAPC districts have formed a “smart growth” planning coalition called Vision 2020 or the New Mayflower Compact. The voluntary effort is promoting master planning and lobbying for increased state assistance for the region.

The Interstate 495 Corridor might hold the greatest promise for regional collaboration. The fastest growing area of the state, I-495 was constructed during the 1960s outside the major metropolitan infrastructure systems in

rural land. Metropolitan growth gradually moved outward, and the corridor became a hot spot for such high technology companies as EMC, Intel, Cisco Systems, and Compaq. It is comparable to Silicon Valley in its early years. Development has brought in its wake traffic congestion, strained water and sewer resources, municipal finance problems, rising housing costs, and concerns about the quality of life. Traffic increased three- to four-fold along I-495 between 1977 and 1997. Wastewater runoff exceeds the capacity of local waterways to handle it. The groundwater within the area's watersheds is not sufficient to meet growing demand.

In 1997, local officials, the state legislators, planning agencies, and business leaders formed the I-495 Technology Corridor Initiative/Campaign for Shared Solutions to coordinate planning efforts for 42 communities stretching along the western arc of I-495 from Westford to Foxborough. This endeavor is a voluntary problem-solving entity. MAPC and the Massachusetts Technology Collaborative provide staffing and analytical planning studies. The participating towns are trying to establish a regional transit authority and are seeking shared solutions to water and sewer problems. A comparable regional effort is starting in western Route 128 communities that are grappling with increasing traffic and the strains of rapid real-estate development.

Another approach to regionalism builds on New England's intense local sense of place. The Blackstone Valley (established in 1986) and Essex County National Heritage Areas (established in 1996) have affiliated with the National Park Service to interpret, preserve, and market the history of those regions. A third national heritage area called "Freedom's Way," celebrating the history of revolutionaries, inventors, transcendentalists, and reformers, is being proposed for thirty-four communities from Arlington to Gardner. These heritage areas, with local representation on their governing commissions, provide a forum for creative thinking about preserving and interpreting regions. The Blackstone Valley has been the most effective in using its heritage area to identify natural and cultural resources deserving of preservation and developing joint municipal strategies for economic development. In most cases, however, heritage area commissions have limited resources and planning authority and seldom do more than historic preservation and tourism development.

Another way to subdivide Greater Boston is by watersheds, geologic regions, or U.S. Environmental Protection Agency eco-regions. The Massachusetts Executive Office of Environmental Affairs has recently embarked on a Watershed Initiative, which seeks to protect and restore ecosystems. The MAPC area alone includes watersheds for the Charles River, Mystic River, Shawsheen, Neponset River and Weymouth/Weir, South

Coastal, North Coastal, and Sudbury-Assabet-Concord Rivers. The National Park Service provides technical assistance through its Wild and Scenic Rivers program. Watershed planning has improved water quality and affected some land-use decisions, but it remains a specialized tool for regional policy.

### *Greater Boston's Localism*

Policy makers seeking creative approaches for addressing sprawl in Greater Boston often point to the Cape Cod Commission as a model, but many activists question whether a powerful regional planning agency could ever be established in Greater Boston. Whatever vehicles or strategies might be adopted to address the negative consequences of sprawl, it seems clear that a strong culture of “home rule” poses formidable obstacles to muscular regionalism.

The U.S. Census Bureau's system for analyzing New England's metropolitan areas underscores the uniqueness of the region's intense localism. In the rest of the country, counties are the building blocks of metropolitan areas. Counties address the full range of public policy issues, from roads and transit to schools and redevelopment. Many counties include “unincorporated” areas, that is, communities that are not formally part of a city or town but simply receive necessary services from the county. In New England, the municipality provides the basic unit of the metropolitan governance. Every square inch of land is incorporated as part of a municipality. The town's sovereignty is strengthened by the tradition of the town meeting in many communities.

As many Eastern Massachusetts communities became residential suburbs to Boston, the sense of town separateness has increased. Affluent and middle-class families flee the problems of the city to find a haven in the suburbs. Suburbs have become finely gradated by class. The wealthier the community, the more its residents worked to exclude undesirable commercial and residential development. Although suburbanites might work, shop, and seek entertainment in Boston, they conceived themselves as “living” in Belmont, Wellesley, or Norwood.

As is the case across the nation, suburbs in Greater Boston have developed harsh critiques of all aspects of city life and governance—high taxes, bloated bureaucracy, poor schools, crime, and corruption. When regionalism is offered as a solution to the problems of the city or the region, the suburbs have resisted it. During the “urban crisis” of the 1960s, this aversion to the city reached its apogee. In more recent years, Boston's revitalization has made the city more appealing to the middle class and its social problems have become less threatening. But finding common ground among the region's core cities and its suburban communities remains difficult. Issues like housing, education, taxes, and crime essentially pit communities against each other,

with the “haves” seeking to retain their economic and social advantages and the “have-nots” seeking to gain access to the resources of the entire region. Housing is perhaps the most intense example of this zero-sum conflict: While Boston Mayor Thomas Menino pushes suburbs to build more affordable housing, most suburbs are wary of bringing in less affluent populations that would impose new burdens on schools, traffic, and other aspects of community life.

Boston’s role as the “hub” of the region has deterred regionalism by stealing the limelight from surrounding communities. Historic landmarks, sports teams, a powerful mayor, the colorful politics of Beacon Hill, and a city-fixated media contribute to the urban-suburban divide. When locals or tourists describe Greater Boston they identify such central city institutions as the Red Sox, Celtics, Bruins, Boston Symphony Orchestra, Quincy Market, and Harvard University. Much of the rest of the region within the I-495 beltway, where millions live, seems much less real to outsiders. The suburbs of Boston often express resentment at Boston’s higher profile, which makes finding common ground that much harder.

Persuading outlying communities that regionalism will bring tangible benefits and an equal partnership with Boston is always a difficult task. Suburbs express extreme reluctance to grant more political control to urban centers or to create “new layers of bureaucracy.” A 1997 survey commissioned by the Regionalization Commission found that voters opposed creating a new “regional government” and held negative views toward any arrangement that might threaten local autonomy. Those surveyed favored “cooperative action” between municipalities in delivering services if it were done voluntarily. The Regionalization Commission survey also found that most voters think their town governments are doing well at delivering services.<sup>6</sup>

A further obstacle to regionalism is the more general cynicism and lack of confidence toward government and politics. These sentiments had their origin a century ago in the Progressive Era, when civic reformers promoted the un-elected public authority as a way to avoid political corruption and achieve scientific management. Since the 1970s, the public has disengaged more from politics and turned away from new government initiatives. In Greater Boston, there has been no serious proposal to create new levels of regional government. Regionalism is a progressive “good government” issue that appeals to committed activists. The leaders of regionalism in the late 19th and early 20th centuries were businessmen, who saw regional services as the key to promoting local growth.

Regionalism does not make an easy fit with the “transactional” and personal politics practiced in Greater Boston and Massachusetts. Many

Bostonians embrace the conservative idea that local government is less likely to make mistakes than layers of government further from the people—and that mistakes in a limited number of towns will not hurt the region as a whole.

Some communities reaffirm their local identity by resisting regional endeavors. For example, Weston recently vetoed construction of a regional bike trail that would follow the abandoned Wayside train line through Belmont, Waltham, Weston, Wayland, Sudbury, and Hudson to Berlin. Westonites expressed fears about intruders, crime, and visual blight. The state said if all towns did not go along with the bike trail plan, then the project would be scrapped. A similar controversy has bogged down the extension of the MBTA's Greenbush Line through Braintree, Weymouth, Hingham, Cohasset, and Scituate. The 17.5-mile commuter rail line is anticipated to provide a public transit alternative to the automobile for South Shore communities. Some local residents have opposed the project, arguing that the restored transit service would increase local traffic and development pressures. Homeowners have protested that the train would pass very close to their homes.

After 17 years of planning, the State Secretary of Environmental Affairs Robert Durand approved the Final Environmental Impact Report for the Greenbush line reconstruction in 2001. Although the approved plan attempts to deal with local concerns, some critics vow to continue fighting the project.

## **Greater Boston's Regional Challenges**

Even as Greater Boston's economy thrives, the region faces problems that affect its competitiveness and liveability. Some can be treated on a decentralized community-based approach, while others might require state or metropolitan-level action.

One of the most tenacious regional problems—traffic congestion—stems from the region's shift of jobs and population from the urban core toward Route 128 and Interstate 495. According to studies of the Metropolitan Area Planning Council, the percent of vehicle miles traveled in Greater Boston has grown by 75 percent since 1970. MAPC projects that the number of vehicle miles traveled will increase another 26 percent between 1990 and 2020. The lack of public transit options—or new forms of private transportation services like jitneys—forces most commuters in these areas to drive their cars to work. As tens of thousands have moved farther out seeking a rural small-town way of life, the qualities they seek are coming under stress as employers and retailers follow the growing market.

Affordable housing poses another difficult challenge. The high cost of housing makes it difficult for many middle-class and working-class families to afford living in Greater Boston and discourages in-migrants who are needed desperately to work in the labor-scarce regional economy. A coalition headed by the Catholic Archdiocese of Boston has called for development of 35,000 affordable units over the next five years, but experts and activists differ on the best strategy to achieve that goal. Affordable housing advocates state that money is the principal means toward new housing; total spending at the state's Department of Housing and Community Development (DHCD) dropped from \$605 million to \$448 million from 1989 to 1999, and DHCD spending as a share of total state government spending fell from 3.6 percent to 1.4 percent. But other analysts argue that regulatory barriers to housing construction dramatically increase the cost and timeline for housing construction. A divisive controversy over Chapter 40B, the thirty-year-old "anti-snob zoning" legislation, has dogged the housing debate. Supporters of 40B say that it offers developers a mechanism to override local resistance to affordable housing development, while detractors say it runs roughshod over local concerns about the character of cities and towns. Ultimately, the solution to the affordable housing issue requires some mix of state policies, regional funding mechanisms, and numerous local development projects.

Social inequity remains a difficult challenge for a region as fragmented as Greater Boston. A recent book by Barry Bluestone of Northeastern University and Mary Huff Stevenson of the University of Massachusetts at Boston found that the region suffers a wide income gap despite a thirty-year period of "renaissance."<sup>7</sup> Older cities still have significant concentrations of poverty and minority residents. Seventy-five percent of metropolitan-area African-Americans live in Boston, Cambridge, Brockton, and Lynn, and 33 percent of Hispanics and 26 percent of Asians live in Boston. Geographical mobility affects social mobility. The isolation of racial minorities and poor people undermines their ability to find employment and develop social networks that enable them to achieve upward mobility.

Municipal property tax inequality is a growing issue. Some communities absorb large numbers of new families and the costs of educating children while others reap tax windfalls from new office parks or shopping malls. Some communities zone excessive areas for business development in order to attract as much "paying" development as possible. "Smart growth" advocates argue that tax-sharing might provide adequate municipal revenues to the tax-base haves and have-nots and relieve the need for new commercial development that creates traffic congestion and consumes the state's diminishing open space.



Adequate office space and industrial space also poses a problem for the region. Downtown Boston had less than a four percent office vacancy rate in the latter half of 2001. Greater Boston has the fourth highest office rental rates in the country. The lack of office space is a serious constraint on future economic development. Where to build new work facilities is an economic development and a growth management issue. Meanwhile, the region's sprawling growth patterns have become highly inefficient; between 1982 and 1997, the Boston CMSA population grew by 6.7 percent while the increase in urbanized land was 46.9 percent.

The Cape Cod Commission has adopted a "growth center" policy that might offer a model for Greater Boston. The policy offers regulatory incentives for businesses to locate in developed areas that have sufficient infrastructure and to avoid developing "greenfields." MAPC's MetroPlan has designated fifteen Concentrated Development Centers with sufficient transportation, water, and sewer capacity. Some municipalities have used MAPC's advisory guidelines to direct new development, but the designations carry no authority.

Because of Greater Boston's historic pattern of polycentric development, emulation of Oregon's nationally renowned "urban growth boundary" concept—which prevents new development beyond a fixed boundary around the region—might not be possible in Greater Boston. Maryland's strategy of providing state infrastructure funds only for previously developed communities might make more sense in Massachusetts. The "grayfields" strategy championed by new urbanist Peter Calthorpe—redeveloping suburban shopping strips and abandoned military installations characterized by their asphalt surfaces—might also make sense for the Commonwealth.

Underlying all efforts to improve the quality of community life lurks the daunting challenge of improving public education. Under-performing public education in disadvantaged urban neighborhoods is an issue of economic development as well as social equity. Financial disparities between school districts complicates matters. Greater Boston could lose its competitive economic edge because of a shortage of trained workers. The Massachusetts Department of Employment and Training projects that the Massachusetts economy will expand by 400,000 jobs by 2006. An additional 740,000 jobs will need to be filled to replace workers who retire, move up the career ladder, or change careers. The state relies on in-migrant workers to fill many of these positions, but the high cost of housing is a disincentive for workers to move here.

If Greater Boston were a country, its economy would rank twenty-third in the world, ahead of Belgium and Sweden, just behind Russia and Switzerland. The American cities ahead of Boston are New York (14), Los Angeles (16), and Chicago (18).<sup>8</sup> Leaders of many metropolitan areas have

concluded that regional planning is necessary to compete in a global economy. Prominent private non-profit organizations spearheading regional development strategies include Joint Venture: Silicon Valley Network, New York Regional Plan Association, Chicago 2020, The Austin Network, and Pittsburgh Innovation Works. These business-oriented groups, champions of free market entrepreneurship, do not want to leave their region's economic future to the whim of the marketplace.

Various entities are concerned about economic development strategy for Greater Boston—the State Office of Economic Affairs, the Greater Boston Chamber of Commerce, the New England Council, statewide technology trade associations, MAPC's Comprehensive Economic Development Strategy (CEDS) Committee—but no single entity has convened all the relevant parties and shaped a comprehensive regional strategy. The 1997 Regionalization Committee recommended an Economic Development Forum and a Council of Governments to play the convening role for Greater Boston, but it has not materialized.

Dealing with growth issues requires a strategic understanding of the region. A regional growth strategy might require going beyond the technocratic approaches that work well for regional water, sewer, park, and public transit services. Whatever and however the region's agencies and organizations are mobilized, regional strategy requires a complex and delicate dialogue. The Cape Cod Commission has transformed the politics of that region. The Commission has built its strategy around an understanding of the distinctive advantages, economic needs, and power structures of the Cape's sub-regions. A Greater Boston strategy would have to develop a coherent regional economic development vision geared to the needs and politics of eight or ten sub-regions.

Home rule remains the biggest political hurdle to strong regional planning. Many town officials are reluctant to cede authority to regional bodies. Some real estate development interests oppose growth management legislation because they fear constraints on their freedom of action. Environmentalists and businesspersons are not used to talking with each other about their issues. Effective regional planning engages a broad range of constituencies. By binding them together in a common dialogue, Greater Boston could strengthen its sense of regionalism and make headway with the difficult issues of growth and social equity.

### **The Players in Greater Boston**

State government has always played a preeminent role in addressing Greater Boston's regional issues. It helps that Boston is both the state capital and the

state's largest city. The state enacts the policies and provides the institutional structure and the financing for regional initiatives, especially for pressing infrastructure needs.

The metropolitan authorities are creatures of the state. The Metropolitan District Commission, for instance, operates as a department under the Massachusetts Executive Office of Environmental Affairs with its own commissioners. Statewide programs such as highway construction and state parks and forests ultimately serve regional and local purposes. The state determines broad education policy through major initiatives like the Education Reform Act of 1993 and school funding formulas, but schools are managed locally. The state shapes housing policy through subsidies, financing, incentives, and planning of the Massachusetts Housing Finance Agency (now called Mass Housing) and the Department of Housing and Community Development. One reason regionalism has developed slowly in Greater Boston may be because state government has been relatively responsive to the regional issues.

The state legislature would have to enact major legislation before metropolitan-scale planning could occur in Greater Boston. State initiatives would be necessary for more aggressive regional approaches to affordable housing or tax-sharing arrangements. The legislature has shown a willingness to create new regional structures such as the Martha's Vineyard Commission and the Cape Cod Commission.

The biggest problem with reliance on the state government to address regional issues is that the legislature's "inside baseball" can stymie regional initiatives and disempower local communities. The process of legislative bartering tends to focus on discrete projects in communities rather than a comprehensive approach to policymaking, particularly on issues with traditionally strong local control like land-use planning and housing development.

County government has never been as strong in New England as in the rest of the country. The county was used to organize courts, jails, and registries of deeds, to build local highways, and to provide welfare; all but prisons and jails have been transferred to the state. The state's plans to abolish county government in the mid-1990s provoked little resistance, largely because the Boston area counties of Suffolk, Middlesex, Norfolk, and Essex were not well-recognized regions or useful vehicles for addressing policy issues. When the Weld-Cellucci Administration set out to abolish county government, it only abolished counties that enjoyed little local support. The legislature eliminated Middlesex, Essex, Worcester, Berkshire, and Hampden with hardly a complaint. Hampshire, Franklin, and Northern Middlesex turned themselves into Regional Councils of Government (COGs). Norfolk,

Plymouth, Suffolk, Bristol, Barnstable, Dukes, and Nantucket live on because of local political backing. The remaining counties, except for Barnstable (Cape Cod), are not effective regional policy-making institutions.

The state-authorized metropolitan authorities—the Metropolitan District Commission, Massachusetts Water Resources Authority, Massachusetts Bay Transportation Authority, and Massport—continue to provide important services to the Greater Boston region. The agency with the greatest potential for growth is the MBTA, which is under many demands for expanded service. The MBTA is constructing the Greenbush commuter rail line along the South Shore and the Silver Line from the developing South Boston Waterfront District to Roxbury in Boston. The MBTA is also studying creation of the Urban Ring, which would provide rapid transit service on a circumferential route through Boston, Cambridge, Somerville, and Everett. Suburban communities also are seeking to increase public transit options.

Massport plays a major role in air transportation, modernizing Logan Airport and expanding service at Worcester. Massport is even floating the idea to manage all the major commercial airports in New England. As water supply and sewer needs increase in outlying communities, especially the I-495 Corridor, the MWRA may be called upon to expand coverage beyond its 61 communities—forty-six with water from Quabbin Reservoir and forty-three using the Boston Harbor sewerage treatment facilities. The MDC, which is under pressure within state government to reduce its scope of services, seems unlikely to expand its role in regional governance in the foreseeable future.

As the discussion about growth management and affordable housing heats up, the Metropolitan Area Planning Council (MAPC) seeks to expand its advisory role. MAPC is currently revisiting its plan for the region, originally adopted in 1990, which may attract a more receptive audience for regionalism this time around.

Around the periphery of MAPC's service area, the Merrimack Valley Planning Commission, Northern Middlesex Council of Governments, Montachusett Regional Planning Commission, Central Massachusetts Regional Planning Commission, Old Colony Planning Council, and Southeastern Regional Planning and Economic Development District are in various phases of regional planning. If the state provides support for regional plans by enacting the Livable Communities Act, a bill sponsored by State Senator Mark Pacheco, a Democrat of Taunton, the regional planning agencies will receive funding for regional policy plans and the opportunity to expand their policy-making function.

Municipal governments rule the roost in local policy-making and service-delivery. They are reluctant to give up any existing powers to regional bodies or the state government. Local control is less than it may seem, however. The state determines municipal revenue levels through the real estate tax constraints of Proposition 2½ and annual local aid. Although the municipalities operate the schools, the state exerts great influence over educational financing, curriculum, and performance evaluation. State Law Chapter 40A, unchanged in decades, governs local zoning regulation. Municipalities do participate in voluntary inter-local compacts for obtaining solid waste disposal, libraries, and purchasing supplies. The proposed Urban Ring is being developed by a compact of six cities and towns under the direction of the MBTA in a process managed by the Boston Redevelopment Authority.

Universities and non-profit organizations are playing an increasingly important role in analyzing the problems of Greater Boston and bringing together interest groups. The University of Massachusetts at Boston has long explored regional issues at its John W. McCormack Institute of Public Affairs. The Rappaport Institute for Greater Boston at Harvard University's John F. Kennedy School of Government was established in 2000 to research regional issues, spark dialogue among different interest groups, and promote improved levels of local government. Northeastern University's Center for Urban and Regional Policy was commissioned by the Roman Catholic Archdiocese of Boston to develop a "new paradigm" for housing in the region, which was released in 2000. The Urban Ecology Institute at Boston College has developed curricular programs for public schools and helped to generate a new regional dialogue around the rivers that shape eastern Massachusetts.

The Boston Foundation and the City of Boston in 2000 published a comprehensive listing of socioeconomic indicators to measure changes in the quality of life in Boston. *The Wisdom of Our Choices: Boston's Indicators of Progress, Change and Sustainability* will be updated every two years and possibly supplemented with a regional indicators report and database. The Citizens Housing and Planning Association in 2001 released a study by Minneapolis-St. Paul regionalist Myron Orfield concerning a regional strategy for affordable housing and social equity in Greater Boston. The Boston Society of Architects' Civic Initiative for a Livable New England has attracted substantial attention to regional growth issues. The Environmental League of Massachusetts, the state's leading environmental lobbying group, is promoting legislative passage of the Livable Communities Act, which would enhance regional and local planning capacity. Niel Pierce, an advocate of regional governments and economies that he calls "citistates," is developing an analysis

of New England issues in cooperation with the Metropolitan Area Planning Council.

Businesses and developers understand the region well and site companies and housing to meet a regional market. Many companies that undergird the regional economic base—in technology, medicine, and finance—have a sophisticated understanding of the regional job market, infrastructure, and real estate. They have an interest in maintaining regional competitiveness, but are wary of being constrained by new government policies. In an age of corporate consolidation, fewer corporations have strong local ties.

### **Policy Options for Regionalism**

The idea that Greater Boston's problems must be addressed with a regional approach does not necessarily translate to agreement on the specific strategy. Some argue that since Massachusetts is geographically compact—requiring just over three hours to traverse the state from end to end—state policy should direct regional planning and development. Others argue that the state contains numerous regions that have different political and policy challenges; each region, according to this view, needs a distinct and coherent approach. Still others claim that local governments will always be the major unit of policy on planning and development, and that they should be mobilized to meet larger regional goals.

#### *State Politics and Regionalism*

As advocates of regionalism try to develop political support around growth management issues, they must remember that it will not be strictly a Greater Boston issue but a statewide issue that will require support from other regions of the state. Experience in Oregon, Vermont, New Jersey, Georgia, Florida, and Maryland shows that effective growth management requires state action. Some of these states have established statewide planning standards while others have required metropolitan areas to develop regional plans.

Governor William F. Weld provided some momentum for “smart growth” by issuing Executive Order 385, which orders state agencies not to carry out policies that encourage sprawl, but the order has generally been neglected. Governor A. Paul Cellucci's Executive Order 418, which called for comprehensive analyses of different development scenarios, offers powerful data for planners if they are made available through the Internet. The state also is offering \$30,000 municipal Community Development Plan grants under the Executive Order 418 program.

The state legislature has been considering the Livable Communities Act (LCA)—previously known as the Sustainable Development Act—which

would support regional policy plans and local comprehensive plans. The LCA would create a three-tiered planning structure in Massachusetts. At the top level would be a state Council for a Sustainable Commonwealth, made up mainly of state department heads coordinating their growth management policies. At the next level, the state would provide funding for strengthened regional planning agencies with regional policy plans and the potential to regulate large developments. At the local level, the state would provide resources for city and town comprehensive plans. The Executive Office of Environmental Affairs would be responsible for staffing this program.

A supportive governor can provide important leadership for growth management efforts. In Maryland, for instance, Governor Parris Glendening has been the foremost “smart growth” advocate in the state, placing Maryland at the forefront of the issue. Republican Governors Weld, Cellucci, and Jane M. Swift have supported such initiatives when they show strong public backing. Environmental Affairs Secretary Robert Durand has led the way on growth management issues.

Some argue that Massachusetts should reinstate the Office of State Planning, which Frank Keefe directed during the first Dukakis administration from 1975 to 1979. The Office of State Planning’s *Massachusetts Growth Policy Report—City and Town Centers: A Program for Growth* (1977) encouraged urban revitalization and preserving the character of small towns and rural areas. Governor Edward King abolished the office, and Dukakis did not reinstate it during his subsequent terms. Even without the Office of State Planning, the state followed through on its policies of channeling significant state investment into infrastructure, parking, and Heritage State Park facilities in urban centers like Lowell, Springfield, New Bedford, Fall River, and Northampton, and developing a program for preserving agricultural land.

The state executive departments and the legislature have many tools at their command, including funding programs and the ability to create new regulatory and planning powers, to deal with local and regional issues. State departments are oriented to serving localities in planning and community development funding.

The state’s ambivalence toward regionalism is evident in the recent debate about Governor Jane Swift’s proposal to shift management of the Metropolitan District Commission’s 162 miles of scenic parkways to the Massachusetts Highway Department. Environmental advocates have objected to the proposal out of fear that highway engineers might destroy the appearance of parkways to improve traffic efficiency. Another bill would place the metropolitan parks under the state Department of Environmental

Management and virtually do away with the MDC. Some politicians argue the MDC's park system could be more efficiently managed by the state. This would remove any semblance of regional management over these Greater Boston resources.

There are drawbacks to relying upon the state to take the lead in dealing with Greater Boston regional growth issues. State-oriented initiatives can have a top-down quality that, at the least, lacks the political energy of citizen-based activities and, at worst, alienates local communities. New urbanists Peter Calthorpe and William Fulton have pointed out that: "The recent experience of what we call 'state-led regionalism' suggests that the bureaucratic, regulatory approaches that states have traditionally adopted cannot by themselves be effective. They must be supported by a whole panoply of affirmative efforts [by local government and non-profit organizations]."

### *Regional Planning Agencies*

One obvious candidate for leadership of regional planning and development is the Metropolitan Area Planning Council. By updating the MetroPlan of 1990, which proposed focusing state resources on Concentrated Development Centers, the MAPC could outline a comprehensive strategy not only for reviving existing urban centers but also protecting farmlands and rural communities from intensive new growth. MAPC's MetroPlan update could provide a forum for housing, environmental, and economic development groups and thus shape stronger regional initiatives. Because of the MAPC's advisory nature, the 1990 MetroPlan has not changed development patterns substantially.

The biggest factor in MAPC's favor is that it already exists. The 136-member board—which includes the chief elected officials of 101 cities and towns, representatives from state agencies, and citizen appointees of the governor—already convenes leaders from the region inside Interstate 495. Given political authority in certain key issues, the MAPC might revive the planning dialogue initiated by the old State Office of Planning.

For now, the MAPC's influence comes from its capacity to convene people on issues of regional importance. The I-495 Technology Corridor Initiative, which MAPC helps staff, is a sub-regional example of how MAPC can create more workable regions and mitigate local criticisms of a remote planning bureaucracy. A sub-regional planning committee made up of elected local officials with professional staff from MAPC can alleviate concerns about accountability.

Passage of the Livable Communities Act would mandate and fund regional plans. The bill would authorize regional planning agencies to review



developments of regional impact, as their sister agencies on Cape Cod and Martha's Vineyard already do. This is the most controversial part of the Livable Communities Act and the one most opposed by development interests.

### *Using Local Government for Regional Purposes*

Since local identity runs so strong in Massachusetts, it might make sense to leverage local government to achieve regional goals. A good example of communities working toward both local and regional ends is the Community Preservation Act, which permits municipalities to adopt up to a 3-percent real estate tax surcharge for open space purchase, historic preservation, and affordable housing. Besides the Cape and the Islands, a couple dozen communities have passed this tax and are purchasing properties.

Though most people believe Massachusetts communities have “local control” over land-use decisions, a growing zoning reform movement argues that “home rule” in zoning is illusory. Spearheaded by state legislators like Senator Pamela Resor of Acton, Representative Douglas Petersen of Marblehead, and former Representative John Stasik of Framingham, the nascent zoning reform coalition argues that the by-right zoning under State Law Chapter 40A does not give communities effective control over many large developments and subdivisions. “Grandfather” clauses, “approval not required” subdivisions, and “zoning freezes” are among the antiquated provisions that tie municipal hands in planning and zoning.

If Greater Boston municipalities are unwilling to grant regulatory power to regional planning agencies, they might try to obtain for themselves stronger local planning powers, adopting some of the planning tools already delegated to the Cape Cod Commission. For instance, municipalities could be granted power to review large projects according to minimum performance standards, instead of through by-right zoning. Municipalities also could implement transfer of development rights programs and obtain authority to levy impact fees to pay for infrastructure improvements. Regional plans could establish minimum performance standards and a regional planning analysis.

Cities and towns also can participate in voluntary regional compacts. The example of the Town of Bedford, a community of 12,595 population fifteen miles northwest of Boston, illustrates the possibilities. Bedford is involved in eighteen different regional service consortia, including the North East Solid Waste Committee, Eastern Middlesex Mosquito Control District, Greater Boston Police Council, Massachusetts District 6 HAZMAT Team, Minuteman Library Network, Educational Collaborative of Greater Boston, and Salt Purchasing Collaborative. Every other municipality participates in similar consortia.

Cooperative municipal services were the core recommendation of Mayor Menino's 1997 Regionalization Commission. The report stated: "One of the greatest structural impediments to municipal fiscal health is the efficiency of providing certain municipal services on a small scale." MAPC has created collective purchasing consortia serving forty municipalities. They provide group health insurance, materials purchasing, and common municipal management training. The Telecom City project offers another model. Medford, Malden, and Everett have pooled adjoining parcels to create a large site for technology businesses. These municipalities will share the tax revenues, and the job creation benefit will extend to a larger area.

Neighborhood and community-based organizations have contributed to a regional dialogue on affordable housing, economic development, education and job training, crime prevention, human services, and citizen advocacy. The Greater Boston Interfaith Organization has successfully pressured state legislative leaders to create a trust fund for affordable housing development. This grassroots activity is critical to promoting regional approaches to key issues. Environmental justice advocates have likewise pushed for improvements to the regional transit system. Though these endeavors often fall beneath the regional radar, regionalists should make every effort to recruit community activists to work on their issues on a broader regional basis.

### **Developing a Regional Mindset**

Regionalism is not an end unto itself. It is a tool for better understanding and tackling problems of Greater Boston. Regional government is not necessary, but policy-makers do need a regional state of mind. The state, local communities, and non-profit agencies can tackle regional growth management or economic development without necessarily creating new regional agencies.

A regional sense of shared history and culture is essential for regional policy-making. It entails a conversation about the "regional story," an analysis of issues, and an institutional arrangement for convening regional interests to develop policy initiatives.

The Cape Cod Commission is a leader in strong regional planning. Regionalism has flourished on Cape Cod in recent years because of its coherent geography, a long-standing cultural identity, and the fact it has only fifteen towns. The Commission, which is a department of Barnstable County, provides a regional forum for determining growth management and environmental protection policies and regulates large development projects. Barnstable County itself convenes regional committees dealing with human services, public health, and economic development. Also operating on a regional scale are the Cape Cod Chamber of Commerce, Cape Cod

Technology Council, Cape Cod HOME Council, and Cape Cod Regional Transit Authority. One of the most innovative regional collaborations is the Cape Light Compact, which represents the twenty-one towns of Cape Cod and Martha's Vineyard in purchasing electric power and energy conservation. Despite New England-style local authority and conflicts over regional governance, Cape towns use regional entities when they are a more effective way to get things done.

Counties in western Massachusetts have relatively strong regional identities and common interests because of geographically coherent regions and shared histories. Both Franklin and Hampshire have recently transformed their county governments into Regional Councils of Government. The Western Massachusetts Economic Development Council provides strategic leadership and one-stop shopping for economic development for the three Pioneer Valley counties.

Greater Boston possesses the building blocks of a more intense regional identity. People are proud of Boston's history, the sports teams, the historic landmarks, the specific communities where they live and work, the cutting-edge Information Age Economy. Yet Boston's past, its hidebound ways, and political and social resentments also create a burden.

Historic organizations could tell the story of the region through histories, guidebooks, walking tours, exhibits, and special events. The Essex Heritage Area and the Blackstone Valley Heritage Corridor have organized heritage events and trails to increase historic awareness in their regions. It might make sense in explaining Greater Boston to focus on distinct town centers, famous institutions like colleges, distinctive natural landmarks like the Blue Hills Reservation, the Bay Circuit greenbelt and walking trail, and the highway and transit systems that tie the region together.

To develop a wider audience, the media must be engaged more effectively. The print media, particularly *The Boston Globe*, report on regional studies, conferences, and policy proposals; but a regional mindset does not characterize media approaches to reporting. Community-based papers—such as the *Quincy Patriot-Ledger*, *Brockton Enterprise*, *Salem Evening News*, *Lowell Sun*, or the Community Newspapers chain of weeklies—tend to focus strictly on their community's news, but they could be useful in telling how their community is participating in a regional project.

*Boston* magazine promotes a regional point of view with its coverage of cultural and political issues. The magazine's regular ranking of regional communities by house prices or educational attainment provides a sense of how status, class, and consumerism fragment the communities that make up the region.

Television news is weak at reporting public policy, but it does communicate a shared sense of popular culture by celebrating professional sports teams, especially the Red Sox. The Boston Marathon, coursing through eight communities, is one of America's great regional spectacles. Museums, theaters, music groups, colleges, restaurants, and recreational venues and reporting about them also provide a shared sense of the region to local residents.

Talk programs on public television, such as WGBH's "Greater Boston" with Emily Rooney, or local radio programs, such as "The Connection" or "The David Brudnoy Show," could pick up on the policy topics of regionalism if a deliberate effort were organized to raise public consciousness about regionalism. Specific regional issues like growth management and affordable housing receive media attention when there is controversy and could become subjects of further discussion.

Scale poses a difficult problem for understanding Greater Boston as a region. Although the proper sphere of action and analysis is often the entire region, sometimes a smaller sub-region, such as the I-495 Corridor or the South Shore, is more effective at engaging citizens' loyalties. Most people live their lives in about a half dozen communities. Regionalists need to focus on both the Greater Boston region and its many sub-regions through publications, projects, and policy initiatives.

### **A Strategic Regionalism for Greater Boston**

The early twenty-first century poses a unique moment in the history of Greater Boston. Problems of growth are forcing the region to look at new solutions. Many realize that regionalism is the underlying leitmotif of our economy and quality of life. The regional initiatives of competing metropolitan areas across the country are pushing Boston to consider undertaking similar efforts.

Regional strategies for issues like transportation, the environment, housing, and economic development could offer a powerful approach to protect and shape the region's treasured local communities. Smart regionalism can provide new tools for harnessing development and achieving the quality of life people desire. Already, dense networks of organizations in Greater Boston are struggling to find new ways of understanding regional issues. The good news, as the historian Sam Bass Warner, Jr. suggests in his new work *Greater Boston*, is that the traditions of the Puritan congregation and the self-governing town meeting have created more vital local communities than exist elsewhere in the country.<sup>10</sup>

The challenge is to find distinctively Bostonian approaches to weave those localities into common cause when regional approaches make sense.

Greater Boston's cities and towns have been unenthusiastic about creating new unelected, bureaucratic bodies like the public regional authorities of a century ago. This stems from the era's skepticism about politics and big government as well as from a desire for local, democratic control. Citizens ask what regionalism can do for them. Greater Boston cannot mimic the strategies of other regions, but it might fashion a strategic regionalism that builds on the strengths of local identity and action. Regionalism should not be pursued for its own sake, but to solve pressing problems that can be solved no other way.

The dozens of organizations participating in the Boston Society of Architects' Civic Initiative indicate that an active regional debate has commenced. Perhaps a new model of regionalism is evolving in which various interest groups, communities, and government agencies coalesce around specific issues. Since many believe the era of "big government" is over, what might be called a "thousand points of light" approach might offer a workable model of regionalism for our time.

To develop the model requires gathering around a common "table" or set of tables to continue the rich conversations that have already begun. The conversations could clarify the roles of everyone from the state to the Metropolitan Area Planning Council to the region's businesses, universities, grassroots groups, and foundations. Together, participants cannot only tell their common and diverging stories of regionalism, but script new stories for the next generation.



### 3. *The Nature of Greater Boston: Integrating Environmental and Urban Spaces*

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*Laura A. Siegel*

CARTER HILL, 27 ACRES OF ROLLING HAYFIELDS and woodlands in suburban North Andover, a prime sledding and hiking spot that overlooks a dairy farm and connects to other town hiking trails, almost became a housing subdivision. But in July 2001, North Andover finalized a \$1.51 million deal to keep it open space. After years of effort, North Andover became the first community to fully preserve open space under the Community Preservation Act (CPA), a new state law that allows communities to combat sprawl by raising funds for conservation as well as affordable housing and historic preservation. Robert Durand, head of the state Executive Office of Environmental Affairs and a supporter of the CPA since his days in the state legislature, was exultant: “With this purchase, North Andover is saving a scenic vista for people to enjoy for all time, increasing the environmental value of adjacent protected land and protecting a drinking water supply.”<sup>1</sup>

Saving Carter Hill from development not only preserves green space. It also keeps the community’s water clean. Carter Hill drains into Lake Cochichewick, the town’s only source of drinking water. Located next to the 105-acre Mazurenko Farm, which North Andover purchased in 1988, the hill now provides a permanent ecological system that could regenerate the whole area. A subdivision on that spot would have further strained natural resources in the town and fragmented the ecosystem on the hill and on an adjacent 105-acre farm. Beyond saving Carter Hill, the CPA funds also helped the town to establish a trust fund for acquiring other open space.

Meanwhile, in the aging industrial city of Fall River in southeastern Massachusetts, the state Executive Office of Environmental Affairs and the Trustees of Reservations, the oldest land trust in the nation, are teaming up to create a 14,000-acre “bioreserve” permanently protected from development.

The project combines the existing 5,200-acre Freetown-Fall River State Forest and 4,300 acres of watershed and conservation lands owned by the city with 3,800 acres of the former Acushnet Saw Mills property. Intended to protect natural habitats typical of the region, the bioserve includes several that the state's Natural Heritage and Endangered Species Program considers at risk, such as Atlantic white cedar swamps, which host other threatened species. The concept is based on a United Nations initiative to create large patches of contiguous land that protect ecosystems and water supplies while integrating human uses such as recreation and agriculture. The Fall River bioserve is the first of five such areas planned for the state.

To purchase the Acushnet property, the state contributed \$10 million, the Trustees \$2 million, and the Fall River Redevelopment Authority \$2.4 million, the latter in exchange for 300 acres of state forest to offset the city's overall loss of developable land. The bioserve includes conservation easements to restrict development on the acres controlled by the Trustees and on land abutting the acres sold to the redevelopment agency. The challenge now, according to Ule Amundsen of EOE, is to bring together parties with different land-use priorities, including the City of Fall River and the state Department of Fish and Wildlife, to cooperate in managing the bioserve for public recreation as well as conservation.

The initiatives in North Andover and Fall River represent the vanguard of efforts to protect the environment in the Greater Boston region and throughout the state. Urban and suburban communities alike are wielding new tools that clean and preserve water supplies, conserve open space, curb air pollution, and contain sprawl. These tools often rely on complex interactions among public agencies and private actors as well as broad-based approaches to land-use planning that are just beginning to materialize.

## **The Elements of Environmental Policy**

Although the region's environmental quality rests on three main elements—air, water, and land—a coherent strategy for ensuring environmental health depends on numerous programs that attack their interactions as well as each specific problem. With leadership by numerous nonprofit environmental groups and state and local agencies, the region has made progress in cleaning up air and water pollution, and is taking long-term measures to preserve open space and clean brownfields to solidify progress on all three fronts.

### *The Quality of the Air*

The quality of the air in Greater Boston is better than it once was: the number of “good” air-quality days in Suffolk County—which includes Boston—



rose from 150 in 1985 to 300 in 1995. Still, the region faces difficult challenges in the years ahead to assure clean air, as the region and the state still violate federal air-quality standards during significant portions of the summer each year. The state and region are now taking further steps to control both large- and small-scale sources of pollutants.

The worst pollution problem in New England—and Greater Boston—is ground-level ozone, also known as smog. (Concern over ground-level ozone should be distinguished from depletion of the beneficial ozone layer in the stratosphere.) Ground-level ozone forms when two types of pollutants—volatile organic compounds (VOC) and nitrogen oxide (NO<sub>x</sub>)—react. Smog can aggravate asthma and bronchitis, damage lung tissue, and lower resistance to respiratory diseases. Stationary sources such as power plants emit about half these pollutants. Mobile sources (such as vehicles) and “area” sources (such as small businesses and consumer products) split the remaining amount. To control area sources of VOCs since the mid-1990s, the federal government has required gas station owners to install specially designed nozzles, and the state has obligated paint manufacturers to reformulate their products.<sup>2</sup>

While Eastern Massachusetts has finally reached the 1990 federal ozone standard of 0.12 parts per million of ozone measured over one hour, it will probably violate the U.S. Environmental Protection Agency’s new, stricter standard of 0.08 parts per million measured over eight hours. The Supreme Court recently rejected a challenge to this new standard, but the EPA has not yet announced which regions do not comply with it.

The state recorded 124 violations of the new eight-hour standard during the summer of 2001, after seeing only 15 violations during 2000, 22 during 1999, and 12 during 1998, according to Leslie Collyer of the Air Assessment Branch of the Massachusetts Department of Environmental Protection. She cites stagnant weather patterns as the dominant factor in the high number of violations in 2001.

The other major pollution problem in Greater Boston concerns particulate matter, also known as soot. These extremely small particles suspended in midair penetrate deep into the lungs, causing severe health problems. Particulate matter emanates from power plants, diesel trucks, wood stoves, and industrial processes, often in the form of sulfur dioxide, which also causes acid rain. Particulates are more closely linked with elevated death rates than any other kind of air pollution. Eastern Massachusetts is just barely meeting the federal minimum standard of 15 micrograms per cubic meter, with a 24-hour limit of 65 micrograms per cubic meter.

Toxic pollutants such as mercury also contaminate the air and precipitate into the water supply, contaminating that as well. Fish in almost half of

all lakes and ponds in Massachusetts are unsafe to eat because of high mercury levels. In July 2001 the state Department of Public Health issued a health advisory warning women who are pregnant or who could become pregnant, as well as children under the age of 12, to avoid eating five kinds of saltwater fish and all freshwater fish caught within the state. One meal of contaminated fish by a pregnant woman can harm her fetus, and mercury can cause learning disabilities in children. Mercury also causes cancer and damages brain, spinal cord, kidneys, and liver in both children and adults.<sup>3</sup>

Mercury in Massachusetts comes from several sources. Solid waste combustors release over 6,000 pounds each year into the air by burning discarded products such as batteries and thermometers. Factories, power plants, and hospitals also release mercury, and former tanneries and paint factories have contaminated soil with mercury. Much of the state's air-borne mercury comes from out of state. The EPA estimates that from 1,800 to 3,700 pounds of mercury in the air contaminate the land and water each year.<sup>4</sup>

Both state and local actors are working hard to address this problem. In 1998, for example, DEP required municipal waste incinerators to install cleanup technology to remove 85 percent of their mercury emissions.

**Power plants:** Coal-fired power plants known as the Filthy Five contribute 90 percent of power plant pollution in the state, according to the Massachusetts Public Interest Research Group. The Filthy Five include Brayton Point Station in Somerset, Canal Station in Sandwich, Salem Harbor Station in Salem, Mystic Station in Everett, and Mount Tom Station in Holyoke. The Clean Air Act of 1970 grandfathered these plants, some of which date from the 1930s, from meeting modern standards: Mount Tom, for example, exceeds limits on sulfur dioxide, a source of particulate matter, by 446 percent.

Governor Jane M. Swift in April 2001 approved regulations by the Executive Office of Environmental Affairs requiring the Filthy Five to clean up or close down. The EOEA mandates that plant owners cut NO<sub>x</sub> and SO<sub>2</sub> emissions 50 to 70 percent over three to five years. The new rules are also the first in the nation to limit mercury and greenhouse gas emissions from power plants: owners must cut CO<sub>2</sub> by 10 percent. The Massachusetts Public Interest Research Group estimates that bringing these plants to modern standards will have the same impact as taking three-quarters of a million cars off the road.

The newest power plants fueled by natural gas run 99 percent cleaner and are twice as efficient as older plants that run on oil and coal, according to the Conservation Law Foundation. Seven such combined-cycle power plants had come on line by the summer of 2001, while some 13 others will join them over the next year. These new plants will add 10,500 megawatts of cleaner power to the New England grid, for a total of 34,000 megawatts,

or nearly 50 megawatts more than peak demand in the summer of 2001. The new plants are easier to site because they are much smaller. The new 16-megawatt plant planned for Somerset, powered by liquid natural gas, will be the most powerful in New England yet fit into the parking lot of its Filthy Five sister facility, according to Richard Kennelly of CLF.

Industry deregulation since 1997, designed to break up the power monopolies and create competition, spawned many of these new plants. The law required utilities to divest themselves of their generating facilities; the utilities would focus instead on transmitting and distributing the power supply. New England Electric, for instance, sold its plants for \$1.6 billion to U.S. Generating Company, which in turn sold them to California-based Pacific Gas and Electric Generating Company.<sup>5</sup> Opponents of restructuring argue that deregulation bailed out the utility industry for bad investments, but supporters claimed that it will yield important consumer and environmental benefits.

The law required an initial 15 percent cut in consumer electricity rates, but dramatic rises in the price of oil and natural gas offset those rate cuts in the winter of 2000–2001. Richard Rosen of the Tellus Institute, a nonprofit energy consulting firm, says the deregulation formula allowed consumer prices to rise significantly faster than they would have under the old system. However, prices are expected to fall with oil and gas prices, and as new plants provide excess capacity for the region.

If all the new plants supply baseline power to the system, CLF's Richard Kennelly expects a dramatic reduction in SO<sub>2</sub> and NO<sub>x</sub> from this sector, with carbon dioxide, the main greenhouse gas, also declining by one-third. In fact, the plants may enable the region to achieve the 7 percent cuts in overall CO<sub>2</sub> emissions by 2007 called for by the international Kyoto accords, even though President George W. Bush has declined to participate in treaty negotiations.

Energy industry restructuring also requires power producers to increase the percentage of their energy that comes from renewable sources to 10 percent over eight years, which they must report beginning in 2003. A small surcharge on electricity bills is supplying an Energy Trust Fund, which will begin distributing \$150 million in 2003 to jumpstart commercialization of conservation efforts and renewable energy sources. One proposal is to include a 40-acre photovoltaic power plant on top of Boston's new convention center.

Of course, not all air pollution in the region stems from sources within the state of Massachusetts. In May 2001, the U.S. Court of Appeals for the D.C. Circuit upheld an order by the U.S. Environmental Protection Agency that power plants in the Midwest and Southeast must cut their NO<sub>x</sub> emissions by May 2004 by 75 to 85 percent.<sup>6</sup> Although this ruling could cut air

pollution in New England significantly, the EPA may withdraw its suits owing to pressure from the Bush Administration. If the ruling takes effect, Midwest states will participate in an ozone trading commission much like the regional Ozone Transport Commission that now encompasses 12 states from Maine to Washington, D.C.

**Logan Airport:** As the Filthy Five clean up or shut down, Environmental Affairs Secretary Robert Durand projects that Logan Airport will become the state's top air polluter by 2010.<sup>7</sup> The airport is now the sixth-worst source of smog in the state. Logan produced 2,444 tons of NO<sub>x</sub> in 1999, mainly from airplanes as well as service vehicles and associated traffic. According to David Luberoff, associate director of the Taubman Center on State and Local Government at Harvard University's John F. Kennedy School of Government, airport pollution has received much less scrutiny than other sources of air emissions. In fact, according to the Massachusetts Environmental Protection Agency, aircraft are the only mobile source of air emissions not targeted for meaningful cuts under the "state implementation plan" that Massachusetts must file with the U.S. EPA because it is out of compliance with the Clean Air Act.

The outlook for air emissions from Logan changed when airport officials filed an environmental impact statement as part of their petition to build a new runway. Durand approved the project in June 2001, provided that Logan fulfills an air-quality initiative.<sup>8</sup> This initiative has two main components. First, Logan has committed to a first-in-the-nation agreement to cap NO<sub>x</sub> and VOCs at or below 1999 levels, regardless of future increases in passenger volume. Massport, which runs Logan, will obtain one-third of these cuts on site by converting ground transport vehicles to cleaner fuels, and cut the balance by financing reductions by off-site emitters. Massport will pass the costs of these efforts on to the airlines under the "polluter pays" principle.

Logan has also agreed to implement a peak-period pricing or other demand-management scheme as the number of flights grows. Under peak pricing—originally implemented by the Dukakis Administration in 1990 but abandoned soon after—airlines pay more for takeoffs and landings during popular times. Peak-period pricing encourages airlines to consolidate flights and encourages small planes to fly during off-peak hours, easing pollution from planes queued to take off and land. According to Jay Wickersham, the director of Massachusetts Environmental Protection Agency, experiences in the late 1980s showed that demand management systems can work. The Federal Aviation Administration and the Port Authority of New York and New Jersey have instituted a prototype plan for LaGuardia Airport. As part of its agree-

ment, Logan will also continue to monitor air quality in surrounding towns. Cutbacks in demand for air travel, in the aftermath of the terrorist attacks on the U.S. on September 11, 2001, may delay implementation of the system.

**Cars:** Policymakers point to three strategies to reduce air pollution from cars, trucks, and buses. One is to create cleaner vehicles; a second is to manage traffic better; and a third is to convince people to drive less. Residents of the City of Boston already own only 0.87 cars per household compared with 1.67 nationwide.<sup>9</sup> Some 14 percent walk to work; while 32 percent take transit. The Greater Boston area includes some 33,000 park-and-ride spaces to encourage people to carpool and use transit.<sup>10</sup>

Residents of Eastern Massachusetts made some 776,000 daily trips by transit in 1995. Boston's Central Transportation Planning Staff expects that figure to grow by 45 to 49 percent—to reach a total of 1.13 million to 1.16 million—by 2025. The growth reflects a projected rise of 31 percent in the number of employees in the area, and a 25 percent rise in the number of households. The forecasted transit needs exceed the capacity of buses and trains, according to the agency.<sup>11</sup>

Despite a higher-than-average regional reliance on transit, the use of cars is growing in Greater Boston and beyond. Between 1986 and 1996, the state saw a 21 percent increase in the number of vehicles, bringing it to the same level of cars per person as the national rate.<sup>12</sup> And according to an analysis by the Surface Transportation Policy Project of data compiled by the Texas Transportation Institute, the number of vehicle miles traveled in the state rose 32 percent from 1982 to 1999 while population grew by only 5 to 8 percent.

To reduce the effects of car use and comply with the 1990 federal Clean Air Act, the state implemented a more stringent emissions testing program in 1999. Besides measuring hydrocarbon and carbon monoxide emissions more accurately, the new tests also measure NO<sub>x</sub>, the key ingredient in smog. The state estimates that this program, which relies on a dynamometer to simulate real-world driving conditions, will cut smog-causing pollution by 25 percent, if the experience of other states is any guide.<sup>13</sup> In February 2001 the state also began testing heavy-duty vehicles that burn diesel fuel, and will expand this program to include light-duty cars and trucks in 2002. More stringent standards for car emissions take effect in 2004, and low-sulfur gasoline phases in over several years.

In 1999 Massachusetts adopted California's zero emission vehicle (ZEV) mandate, which requires that manufacturers boost the number of cleaner-burning vehicles they sell in the state to 10 percent by 2003. Such vehicles can include gas-electric hybrids as well as purely electric vehicles.

However, in November 2001, Massachusetts, along with New York and Vermont—which also adopted the California mandate—announced a postponement of the mandate’s implementation for four years, owing to technological constraints facing automakers. Environmental groups contend that the delay is illegal under federal law and threatened to take legal action to force implementation by 2003.<sup>14</sup>

Congestion or peak-period pricing—charging more for driving during busy times—can also discourage rush-hour traffic and thus lower emissions. Under this system, electronic devices placed on a car’s windshield provide toll discounts to road users during off-peak hours. The approach is controversial because it rewards users whose lifestyles and work schedules happen to occur outside normal working hours. Many policymakers argue that public facilities should charge all customers equally. Christine Kirby of DEP says that the state decided it could avoid adopting such a controversial system by cutting emissions from power plants and instituting a stringent vehicle inspection scheme.

More modest tactics also aim to reduce the number of cars on the road. For example, the state began a Ride Share program in the early 1970s, and revitalized it in the early 1990s to comply with pollution standards under the 1990 revisions to the Clean Air Act. The program asks employers to cut their employees’ car trips by 25 percent. Ride Share requires companies that are major emitters of pollution and also have 250 employees—as well as all employers with at least 1,000 daytime commuters—to provide incentives to cut the number of “drive-alone commutes.” Such incentives can include annual match-making of carpoolers, subsidizing transit passes, and providing showers and bike racks for bicycle commuters. Susan Lyon, head of the Ride Share program, says many employers already provide such incentives because it helps them attract employees. However, the state has so far not compiled information on whether companies are meeting their targets or what environmental impact the program has produced.

The state also has established the high-occupancy-vehicle lane on Interstate 93 south to cut the number of car commuters under the central artery mitigation scheme. Critics have complained that the HOV lanes fail to attract the carpools needed to make it a success and urge the state to abandon the experiment.

Cambridge and Boston have frozen the number of parking spaces to control the number of vehicles on their roads. The effectiveness of these parking freezes is limited, however, because of loopholes that allow the creation of new garages directly connected with office or residential buildings. Officials in Boston privately state the parking freeze in the city’s downtown should be repealed, but they would face bureaucratic obstacles and the ire of

environmentalists if they tried to seek a repeal. In any event, thousands of new parking spaces have been created in the city in recent years.

Car-sharing offers another strategy to reduce the number of people who own and drive cars. In 2000, a for-profit firm called Zipcar began placing cars all over the region for use on an hourly basis. The thinking is that if occasional drivers can get access to a car when they absolutely need it—to make a big grocery shopping trip, for example, or to get goods from a lumber yard—many of them might avoid buying a first or second car. Because car ownership entails significant “sunk costs,” car owners often drive more than they would if a car were simply made available to them. Real-estate companies have responded to the new auto option by providing spaces for Zipcar in their buildings, and city councilors are considering requiring large developers and all city-owned garages to include parking for short-term rental cars. Meanwhile the MBTA has announced a pilot program to donate four spaces at four of its parking garages to Zipcars, give subway riders easy access to them. Even if short-term rental cars reduce the number of cars on the road by only 10 percent in urban neighborhoods, significant reductions in congestion are possible.<sup>15</sup> Zipcar officials are considering new strategies for promoting widespread car-sharing in transit-oriented neighborhoods such as Jamaica Plain. The company has found that its best opportunity for gaining customers might be when car owners’ vehicles “die” and they face the possibility of spending \$15,000 to \$20,000 for a new vehicle.

**Buses:** Buses are one of the largest single source of particulates at the neighborhood level, especially in the heavily trafficked streets of Boston, Cambridge, and Somerville, according to Seth Kaplan of the Conservation Law Foundation. The Massachusetts Bay Transit Authority runs one of the oldest and dirtiest bus fleets in the country. Until very recently, nearly all of the MBTA’s 1,000 buses ran on heavily polluting high-sulfur diesel fuel. The U.S. National Institute for Occupational Safety has classified the exhaust created by the combustion of this fuel as a probable carcinogen.<sup>16</sup>

According to the MBTA’s May 2001 analysis, the average bus in its fleet produces 5.6 grams of NO<sub>x</sub> and .214 grams of particulate matter per “brake horsepower hour.” These figures exceed the 1998 EPA standards of 4.0 grams of NO<sub>x</sub>—stricter limits have already been proposed for 2004—and .05 grams of particulate matter for buses produced after 1996 and .10 grams for older buses.

In September 2000, an administrative consent order issued by Massachusetts DEP required that, as part of efforts to mitigate environmental fallout from the Central Artery project, the MBTA must replace 358 of its diesel buses with vehicles that run on alternative fuels such as compressed

natural gas. The MBTA announced in October 2001 that it had ordered the last 75 of these buses. The consent order also requires the MBTA to retrofit old buses with emissions controls to sharply reduce particulate matter and other emissions. However, the agency maintains that engine rebuilds already completed under the federal Clean Air Act meet that requirement—an argument rejected by both state regulators and environmental organizations. They are pressing the agency over its failure to meet the December 2000 deadline for such retrofits.

Emissions from privately operated coach buses, shuttle buses, and city school buses remain largely unregulated. In fact, New York and other municipalities removed many of these buses from their municipal fleets and resold them to private companies. Officials are uncertain how many of these buses operate in the Boston area, though a best estimate is about 1,000. The U.S. Environmental Protection Agency has issued rules that would mandate substantially reduced levels of sulfur in all diesel fuel sold in the U.S. by 2006. Simply switching a diesel bus to this ultra-low-sulfur fuel would reduce particulate emissions by 20 to 30 percent, as long as the dirty bus is permanently removed from the street.

## **The Quality of the Land**

A region as well developed as Greater Boston requires making full advantage of the parcels that exist—for housing, business, social and cultural spaces, and, last but not least, parks and recreation. But much of the land in the region has been contaminated or poorly maintained. A complete environmental policy requires strategic attention to these challenges.

***Brownfields:*** Like much of New England, the Boston area once supported a thriving industrial and manufacturing sector that helped shape its history and culture. Those industries also left another legacy: large swaths of contaminated land known as brownfields. These vacant sites are a health risk to those who live or work near them and are a blight in their neighborhoods. But brownfields are difficult and expensive to clean up, and the fact that developers can be held legally liable for the contamination leaves many wary about pursuing redevelopment.

The City of Boston alone contains some 2,247 contaminated sites, accounting for 29 percent of the state's 7,700 contaminated sites.<sup>17</sup> The most severely affected parts of Boston include former industrial areas such as East Boston, Dorchester, Roxbury, and Allston-Brighton, with the highest number of sites in central Boston itself. Government officials and other experts interviewed for this report say that no one really knows how many brownfield sites exist in Greater Boston and Massachusetts.



The Massachusetts Waste Site Cleanup Program of 1993 sped up brownfield remediation by privatizing it and allowing developers to calibrate the level of cleanup to a site's intended use. At the federal level, the Environmental Protection Agency launched the Brownfields Action Agenda in 1995, which included brownfields pilot projects, clarification of owner liability, partnerships, and job training nationwide. Two years later, Vice President Albert Gore created the Brownfields National Partnership Action Agenda.

In 1998, Massachusetts passed landmark brownfields legislation to reduce the risk of developing contaminated property and offer \$50 million in assistance and funding. Key components include a tax credit to encourage private-sector brownfield revitalization, protection from liability for developers who clean up a site, and insurance through the Massachusetts Business Development Corporation for private-sector brownfields lending. The Brownfields Redevelopment Fund, a grant program administered by the Massachusetts Development Finance Agency, also provides up to \$50,000 per site for environmental assessments and up to \$500,000 for remediation. The Governor's Office for Brownfields Revitalization, the Department of Environmental Protection, the Office of the Attorney General, and the Department of Revenue help administer this package of programs.<sup>18</sup>

The program has provided some 393 sites with funding or direct assistance, another 139 sites are applying for such assistance, and the state has conveyed information to owners or developers of another 118 sites, according to Catherine Finneran, brownfields coordinator for DEP. These efforts have contributed to some notable successes, especially in the Dudley Square area of Boston's Roxbury neighborhood. The Modern Electroplating plant, a five-acre site shut down by court order in 1994 because the company had dumped wastes directly into sewers, was once a conglomeration of wastes, including hydrochloric acid and potassium cyanide. The City of Boston worked with the U.S. Environmental Protection Agency to remove hundreds of barrels of paints and solvents and a thousand gallons of acidic waste. The new owner, Cruz Construction, is now investigating the condition of soils and buildings on the property and fashioning a financing package before committing to a planned \$20 million four-story office and retail building and garage.<sup>19</sup>

Other important brownfields projects include the creation of Centennial Park on a capped landfill in Boston's West Roxbury neighborhood, and Danehy Park in Cambridge, once a 50-acre city dump. The East Boston Greenway, a stretch of former rail corridor contaminated by coal and coal ash, is being cleaned and covered for conversion to a greenway with a

bike and pedestrian path. The Massachusetts Highway Department and the MDC are converting the Columbia River Tire site into a park on the Neponset River Greenway in Boston's Mattapan neighborhood.

The City of Somerville is considering proposals for Assembly Square that include office, research, residential, retail, open space, and arts uses. That development would include a new Orange Line rapid-transit stop, funded by the developer. Meanwhile, the EPA has designated nearby Telecom City—a partnership among Malden, Everett, and Medford to convert a 200-acre site contaminated by power plants and chemical facilities into an high-technology research and development park—as a brownfields pilot project. Under this program, EPA sends a staff member onsite fulltime for two years and helps leverage other federal resources for the project. The state has granted some \$21 million to help fund Telecom City.<sup>20</sup>

Todd Fernandez, director of the Governor's Office for Brownfields Revitalization, says that state and local agencies such as the Dorchester Bay Economic Development Corporation have tackled some of the most difficult brownfield sites in Greater Boston. For example, Dorchester Bay pulled together funding from 10 sources to convince the Spire Printing Company, a high-technology firm, to lease a Bay Street site for 10 years with an option to buy. The key, according to Jay Wickersham of MEPA and Mark Norton of Dorchester Bay, is finding a use for a brownfield that meshes with the site's location. The Bay Street site abuts the Ashmont MBTA station on the Red Line—a plus for attracting employees. Dorchester Bay is also working with a group of artists to develop a 25,000-square-foot warehouse in Uphams Corner that formerly housed an industrial dry-cleaning operation. That site, although not severely contaminated, had stood vacant for a decade until the artists saw its potential as a cooperative work space.

In conjunction with Niall Kirkwood of Harvard University, Fernandez's office is planning to inventory brownfield sites throughout the state to provide some benchmarks for redevelopment efforts. No one really knows how many sites exist, he says, because tallying them requires investigating tax and ownership records and conditions at each potential site.

**Urban parks:** The recreational benefits of parks in cities are obvious: places to escape the cars and pavement, to cool down in summer, to experience nature, to enjoy sports. The environmental benefits are less obvious but real. Parks can help support a diversity of plants and wildlife. They can also help recharge and filter groundwater and prevent floods.

Boston is blessed with the Emerald Necklace, an extensive network of green spaces and borders to roads and rivers that run from the Boston

Common near Beacon Hill out to Franklin Park in Roxbury and Dorchester 6.4 miles to the south. Among high-density cities, Boston has a relatively high number of acres of parkland per person—around 8.7 acres of open space per 1,000 residents, exceeded only by San Francisco's 10.3 acres per 1,000 residents.<sup>21</sup>

Parks advocates and officials agree that Boston's parks system is underfunded for the tasks it is required to perform. The budget for Boston's Department of Parks and Recreation totals some \$13 million for responsibilities that include maintaining 2,200 acres of parkland, including 215 parks and playgrounds, as well as 65 squares, 3 active cemeteries, 16 historic burying grounds, and 2 golf courses—as well as programming activities.<sup>22</sup>

Boston plans to expand its parkland by 25 percent by 2005. By making improvements on the waterfront land and at the Boston Harbor Islands, creating pocket parks, and protecting wetlands.<sup>23</sup> Boston is in the process of incrementally developing a 43.5-mile Harborwalk, a process begun in 1984. The Harborwalk will offer access to almost the entire shoreline of Boston. Recent additions include segments at Long Wharf and Sergeant Wharf in the North End, the Fan Pier interim walkway, and stretches at the University of Massachusetts at Boston's Columbia Point campus in Dorchester.

The highest-profile project for Boston's parks and open spaces in the early twenty-first century will be the "restoration" project of the Central Artery. On 27 acres that now stand in the shadow of Interstate 93, planners are deciding what kinds of parks and other public amenities to build along the future Rose Kennedy Greenway. Greenspace advocates envision a series of parks along its surface from the Museum of Science to the New England Aquarium. But urban designers say the corridor should include both parks and buildings that connect the two sides of the corridor. Ultimately, funding issues could settle the matter. Neither the state nor the city has committed the capital or operating funds necessary to realize the parks vision. Observers say that some kind of public-private partnership—in which developers allowed to build on the corridor will finance nearby parks—will be necessary to transform the area. The Surface Artery Legislative Commission, composed of 12 legislators, recommended in July 2001 that a new governmental entity should be created to manage the parks, but ownership and financing responsibilities remain unresolved.

The Harbor Islands National Park, established in 1996, is fast becoming a major recreational and historical resource in Greater Boston. The park encompasses 34 islands, ranging in size from one to 274 acres, that provide an ecological transition between a densely settled urban area and the open ocean. The park's 35 miles of undeveloped shoreline reflect an intricate coastal ecology as well as complex geological processes. The islands are the

only instance in the United States where glacial drumlins, deposited by the movement of ice 15,000 years ago, intersect a coast.

The area's archeology testifies to thousands of years of occupation by Native Americans, while three national historic landmarks—Boston Light, Fort Warren, and Long Wharf—bear witness to more recent use. The National Park Service, along with other federal, state, city, and private members of the Boston Islands Partnership, is working on a master plan that encourages public access to the park as both a recreational haven and an informational resource while preserving the region's unique ecology. Under the master plan, parks would operate under an operating budget of some \$8 million, with capital costs ranging from \$61 to \$88 million.<sup>24</sup>

The Metropolitan District Commission (MDC) maintains the first regional park system in the country, established in 1893. Charles Eliot envisioned a metropolitan park system whose greenways would connect three major hills—Belmont Hill, Blue Hill, and the Middlesex Fells—to the seashore. Today the MDC continues to administer an amalgam of coastal areas, parkways, and greenspace, providing direct services often to underserved populations.

The agency is in the midst of a \$30 million effort to restore habitat, landscaping, and bathhouses on beaches along Boston Harbor from Winthrop to Wollaston to complement the Boston Harbor cleanup. This work has entailed collaborating with the City of Quincy to create a stormwater management system that diverts sewage from the bay, as well as improvements to Carson Beach in South Boston, Tenean Beach in Dorchester and Constitution Beach in East Boston. The MDC is also working with the Boston Harbor Islands Alliance to restore piers and other structures on islands within the harbor. The agency is pursuing the largest beach restoration project in New England, which will entail mining sand eight miles offshore to replenish MDC beaches.

The MDC also is collaborating with the Charles River Conservancy to implement a master plan that expands greenway connections along the river from Watertown to the Museum of Science at the mouth of the Charles. And the agency is working with the Neponset Greenway Council to create a master plan for the lower Neponset River that entails reclaiming a brownfield site and using a piece of the old B&M rail line to create a trail connecting two parks. The agency is also collaborating with Tufts University to study the habitat and water quality of the Mystic River watershed, and will create 40 acres of new parkland in the Charles River basin as part of the effort to mitigate the effects of the Central Artery Project.

**Biodiversity:** Preserving an area's biodiversity—its variety of life and natural processes—is essential to preserving healthy ecosystems, which in turn support human life. The City of Boston alone includes over 100 acres of wetlands, a rich source of biodiversity. One Boston pond recorded over 400 birds from 21 species on a single day.<sup>25</sup>

The Boston area faces two major threats to its biodiversity: sprawl and invasive species. When people develop buildings, parking lots, and roads on green space, they not only destroy wildlife habitats and ecosystems but also shatter the continuity of remaining habitats, threatening the survival of native species. According to Holly St. Clair of the Metropolitan Area Planning Council (MAPC), the region's 101 cities and towns lost more than 22,000 of 919,000 acres of forests, meadows and agricultural land from 1991 to 1999, with undeveloped land shrinking from 59 to 57 percent overall.

Article 97 of the state constitution prevents the transfer of publicly held open land to other uses without a two-thirds vote of the legislature. However, lawmakers have routinely approved such transfers for schools and other purposes, pitting environmental interests against other public purposes. The Massachusetts Public Interest Research Group reports that 239 land transfers occurred under Article 97 between 1989 and 2000. Of these, 34 percent were designated for private development, 15 percent for city use, 13 percent for water supply and sewage, and 11 percent for education. The number of annual transfers has also grown.<sup>26</sup>

The Act to Preserve Natural and Historic Resources, sponsored by Senator Pam Resor, a Democrat of Acton, would establish strict criteria for the sale of public lands to private developers. The bill would require municipalities to perform an analysis showing there are no feasible alternative sites for developing schools or hospitals. The bill also would require the city or town to provide replacement parkland to make up for the loss of open space. A priority of Environmental Affairs Secretary Robert Durand, this bill enjoys broad support, and awaits consideration in the Senate Committee on Ways and Means.

Non-native species often lack natural predators, overrunning an area and driving out native species, drastically lowering the area's diversity and threatening its ecological health. According to a state Blue Ribbon Committee on Lakes and Ponds appointed by Environmental Affairs Secretary Durand in October 2000, invasive species such as purple loosestrife and phragmites (reeds) are strangling numerous bodies of water in Massachusetts, including the Fens in Boston's Emerald Necklace.

Biodiversity is a relatively new issue for the EOEA. The release of *Our Irreplaceable Heritage: Protecting Biodiversity in Massachusetts*—a report

issued by the Department of Fisheries and Wildlife and the Nature Conservancy in 1998—drew attention to the broad sweep of land protection issues for the first time in Massachusetts. The report cited the loss of 75 species in Massachusetts and the degradation of the state's remaining biodiversity.

Over the last two years, the state has permanently set aside 100,000 acres of open space, including the 14,000-acre bioreserve in Fall River.<sup>27</sup> In 2000, the state also began sponsoring annual Biodiversity Days, which enlist the public in collecting information on species in their cities and towns. The state has used this information to help compile a database on state biodiversity.

The Massachusetts Department of Fisheries, Wildlife, and Environmental Law Enforcement also recently completed the BioMap Project, which locates exemplary habitats, rare species, and minimally fragmented natural environments across the state critically in need of protection. The Massachusetts Ocean Resource Information System does the same for the seas, and the fisheries and wildlife department is beginning to map biodiversity in the state's inland waterways. These blueprints will be used to prioritize open space for state acquisition, steer local permitting away from sensitive habitats, and guide local and state land-use planning.

An environmental bond bill that Governor Jane M. Swift filed in June 2000 would authorize the state to issue bonds up to \$750 million to buy land for preservation, such as 2,000 acres near the headwaters of the Charles, and fund projects such as a bike path between Newton, Waltham, and Weston. The state approved a \$400 million bond bill in 1996, the last time such a measure was considered. But even if the new bill passes, the state would not necessarily issue those bonds. The environmental agencies would bump into the state spending cap, of which their share is estimated to be \$132 million this year. The bill awaits action in the Committee on Long-Term Debt.

Another tool to protect natural spaces from development is the conservation restriction, which permanently protects private land from development. Private owners retain ownership and management control, but under a legal agreement they grant ultimate control over land usage to a government agency or non-profit organization, which monitors and enforces this restriction on development. The state authorized this conservation tool under Massachusetts General Laws Chapter 184 in 1969.

In a record-setting year, Massachusetts approved restrictions on over 7,401 acres last year. Former Governor A. Paul Cellucci pledged to protect 100,000 more acres by 2002 and 200,000 by 2010.<sup>28</sup> Some controversy surrounds these programs: some people see them as money given to the wealthy to protect their property, with little or no access for the general public. But at a time when land values are causing many large landowners to sell their

property to developers, private ownership with restrictions might be the most pragmatic approach to protecting the landscape.

Agricultural preservation restrictions are a variation of conservation restriction designed to ensure that land stays agricultural. The state protected over 3,597 acres of working farmland in 2000.<sup>29</sup> Several proposals in the legislature would strengthen and expand these programs.

## **Toxic Materials and the Land**

Each resident of Massachusetts creates an average of four pounds of trash every day—totaling 7 million tons in 1996. The state produces 31 percent more trash than it did a decade ago, and exports 1 million tons of solid waste annually to other states.<sup>30</sup> In 1999 alone, Bostonians created 287,000 tons of trash.<sup>31</sup>

Ultimately, environmental policy requires the reduction of wastes, as the state's new master plan for solid wastes acknowledges. Despite the rise in the amount of trash, the region is using innovative programs to expand recycling programs, reduce solid waste, and cut the overall use and production of toxics, focusing particularly on controlling mercury.

**Recycling:** Boston has a much lower recycling rate than other cities and suburbs—12 percent in 2000 compared to about 34 percent statewide, 31 percent in Cambridge, 23 percent in Somerville, 35 percent in Brookline, 52 percent in Worcester, and 56 percent in Wellesley.<sup>32</sup> Boston Mayor Thomas M. Menino announced a new push for recycling in January 2001, centering on a public awareness campaign, placing recycling bins in rental apartment buildings, and recycling in city-owned buildings by 2002.<sup>33</sup> Boston already operates programs to recycle several hazardous materials, including paint and motor oil, as well as electronic products such as television sets and computers, which contain cathode ray tubes.

Recycling can save money. The fees for disposing of non-recyclable trash are \$50 to \$80 per ton, while recycling fees are substantially less, according to John Crisley, director of recycling for DEP, although the overall cost varies with the program and the end use of the recycled material.

The state's new solid waste master plan, unveiled in December 2000 by DEP, calls for a 70 percent reduction in the waste stream by 2010, an ambitious target. The agency aims to aggressively expand recycling and is promoting "pay-as-you-throw" programs, under which communities charge consumers per bag of trash they set out but pick up recyclables for free.

Worcester—which once had one of the worst records for recycling in the Commonwealth but now has one of the best—has achieved its extraordinary 52 percent recycling rate by instituting such a program, also known as unit

pricing. The city saw its solid waste drop 45 percent during the first full year of operation and saved some \$1 million in lower disposal fees and staff time. And contrary to initial concerns, the city has not seen a rise in illegal dumping. Over 100 Massachusetts communities now rely on pay-as-you-throw systems, including Needham (50 percent recycling rate), and Scituate (30 percent), Taunton (43 percent). Lexington saw a 32 percent increase in its recycling rate and a 24 percent drop in solid waste after adopting unit pricing, according to Joseph Lambert of DEP, while Brockton saw recycling rates climb 74 percent and trash volume drop by 44 percent.

The state's Municipal Recycling Incentive Program rewards cities and towns that take steps to improve their recycling programs by providing two payments each year for each ton of material recycled by residents. These payments are then invested back into the community to make further program improvements. The government has awarded over \$8 million through this program in the past three years. Last winter and spring alone it gave almost \$1.4 million to 188 cities and towns. Funds for the program come from the Clean Environment Fund, which is financed by unclaimed bottle deposits.<sup>34</sup>

DEP also plans to launch partnerships with manufacturers to redesign packaging, reduce their use of toxics, and develop products that they take back and reuse.<sup>35</sup> The department's solid waste master plan forbids building new incinerators but allows for a few more landfills, which DEP says will be needed even if the state meets the 70 percent reduction goal. The plan also focuses on shifting the waste industry's role from disposal to broader waste management services.

The legislature is considering several bills to boost recycling and cut solid waste. One bill would establish a "green dot" labeling program—a kind of "Good Housekeeping Seal of Approval"—for products that meet state standards for environment-friendly packaging. Other bills would mandate recycling of used oil filters and oil and the removal of phosphorus from dishwasher detergent. Yet another proposal would expand the popular bottle bill—which requires consumers to pay deposits on returnable bottles and cans—to include water and juice cans and bottles.

**Toxics:** The Massachusetts legislature passed the Toxics Use Reduction Act (TURA) in 1989 with the goal of reducing toxic wastes 50 percent by 1997. Under this landmark program, each manufacturer must publicly report its use, generation, and releases of toxic materials, and identify cost-effective methods to reduce its use of toxics relying on a biennial planning process. EOEA's Office of Technical Assistance and the Toxics Use Reduction Institute at the University of Massachusetts use some \$3.6 million in annual



user fees from 520 large toxics users to perform research and provide technical assistance to companies under TURA.

This effort has yielded great success. In 1990, Massachusetts manufacturers used more than 800 million pounds of toxic chemicals and produced over 100 million pounds of toxic byproducts. Between 1990 and 1999, manufacturers cut their toxic chemical waste by 57 percent, cut their use of toxic chemicals by 41 percent, and cut their toxic releases by 87 percent even while expanding production by 52 percent.

Many manufacturers argue that TURA's reporting requirements are too stringent, and that the law has exerted little real impact. Critics would prefer the use of tax credits as incentives for reducing toxic chemical emissions. Other states without TURA laws have also greatly reduced their toxic emissions, though none measure chemical use the same way that Massachusetts does. And Massachusetts companies use less than one-half the toxics as Connecticut firms.<sup>36</sup>

**Mercury:** EOEa has launched a Mercury Elimination Strategy, spending \$1 million in 2001 to examine current efforts to control or eliminate mercury, identify new policies, and develop an education and outreach strategy. The near-term goal is to reduce releases of mercury by 50 percent by 2003. The agency banned cathode-ray tubes, which contain mercury as well as four pounds of lead, from landfills and incinerators beginning in April 2000, according to DEP documents. The state also began a mercury diversion program in communities that send waste to incinerators, swapping mercury thermometers with digital ones. (Boston banned the sale of mercury thermometers within city limits beginning in May 2001.) Finally, EOEa lowered the level of mercury at which industries must report its use from 10,000 pounds to 10 pounds per year.

Representative Doug Peterson, a Democrat of Marblehead, has filed a bill—reported favorably out of the Natural Resources Committee—that would phase out the sale of products that contain mercury over a six-year period. Companies could gain exemptions, but they would have to clearly label their products as nondisposable, and establish and fund a system to take them back and recycle the mercury. Another bill filed by Jim Marzilli, a Democrat of Arlington, would ban the sale of mercury thermometers in the state, as Boston has already done.

## **Preserving Water Quality**

Thanks to its industrial history, Massachusetts ranks among the 10 worst states in the nation for the quality of its waterways. Reflecting this record, many of the rivers in the Greater Boston area fail the state water-quality

standard for boating and swimming. The region is also facing water shortages that reflect long-term threats to the viability of its watersheds. Yet federal, state, and local actors are making marked progress in cleaning up the region's waterways, and are beginning to take steps to protect the health of the larger natural systems of which they form an integral part. Tackling these problems requires a combination of two interrelated concepts: watershed management and local stewardship.

The state encompasses 27 major watersheds—areas in which all water flows to a common point such as a river, lake, or wetland. In the absence of human interference, water naturally cycles within these areas, as rain and snow seeps into the ground or runs into ditches, streams, lakes, wetlands, and coastal waters. Vegetation slows and filters runoff, while pavement and other impermeable surfaces hasten it. Water that is unable to seep back into the ground carries gasoline, lawn fertilizer, and other pollutants into rivers and harbors. Development that paves over green areas also boosts water demand and deposits wastewater far from its source, producing an imbalance in the local watershed. Environmentalists use the watershed lens to examine problems such as sewage contamination, pollution runoff from roads, threats to drinking water, water shortages, damage to the watershed environment, and harm to marine life.

Along with watershed management, local stewardship has become the leading principle guiding protection of water quantity and quality. Local stewardship means managing wastewater, drinking water, and stormwater as three aspects of a single water supply. First, communities within a watershed area need to capture rainwater and return it to groundwater instead of letting it flow and carry pollution into rivers and seas. Second, communities must clean wastewater and return it to where it came from so it can reenter the ecological cycle. Third, communities need to plan land use around systems of land and water interaction, protecting the most critical areas from pollution.

Balancing a local area's water budget, like its financial budget, means shifting from big sewer plants to septic systems and "package plants"—small water treatment plants that serve an office park or other development. It is a concept that encourages working with environmental systems rather than engineering over them. Done well, this approach reduces waste, protects communities against water shortages, and promotes healthy watersheds.

The Massachusetts Watershed Initiative—a partnership of federal, state, and local agencies, non-profit groups, businesses, and individuals—aims to overcome the fragmented approach to using and protecting water supplies that leads to shortages and degraded water quality. A team composed of representatives from the participating groups coordinates water

protection efforts for each watershed. The team establishes annual priorities and develops a plan to pursue those priorities, as well as to obtain funding for them. The overall goal is to restore natural river flows and habitats and promote shared responsibility for managing each watershed.

***Boston Harbor cleanup:*** Watershed management and local stewardship run counter to a key measure underlying one of the region's most notable success stories: the cleanup of Boston Harbor. During the 1988 presidential campaign, George H.W. Bush memorably attacked then-Governor Michael S. Dukakis for the harbor's condition, but in fact major cleanup efforts were already under way. In 1982, the City of Quincy sued the Metropolitan District Commission, claiming that the polluted harbor violated state law, and in 1985 the MWRA became the lead agency in the harbor cleanup. That same year the EPA and the U.S. Department of Justice successfully sued the state in federal district court for violating the federal Clean Water Act by discharging sewage into the harbor. In 1986, the judge ordered Massachusetts to build new wastewater treatment facilities to stop the pollution.<sup>37</sup>

The state banned sludge discharges in 1991, began primary sewage treatment in 1995, and started secondary sewage treatment in 1998, and the court-ordered cleanup finished on time and on budget—at a cost of \$4.5 billion. The Deer Island Treatment Plant, the second-largest sewage facility in the United States, is nearly complete. Deer Island removes human, household, business, and industrial pollutants from wastewater for 43 Greater Boston municipalities. Begun in 1989, major parts of the facility have been operating since 1995.

The effort left the harbor so clean that dolphins have returned to the water, waterfront development has occurred at a historic pace, and people have returned to the beaches. Some eight miles of beaches in Boston are swimmable on most days. The cleanup has been cited as a model for environmental remediation and community development, leading to a nationwide shift in understanding about the role of natural areas as a spur to development.

Deer Island is a magnificent feat of engineering. Yet despite significantly reducing water pollution in Boston Harbor, Deer Island and other large-scale treatment plants run counter to the concept of watershed management because they do not help refresh local water resources. This is particularly important given that more than half of the 340 million gallons that Deer Island treats every day is fairly clean groundwater that has leaked into sewers in numerous communities. By siphoning off such water resources, the Deer Island treatment has broad implications for the health of watersheds throughout the region.

***Combined sewer overflows:*** The biggest water pollution problem for Boston, Cambridge, Somerville, and Chelsea comes from pipes that combine water runoff and sewage in different parts of the same pipe. During heavy rainfalls, those materials run together, and the effluent flows into the Charles River, the Alewife Brook, and Boston Harbor. Statewide, 23 communities use these combined sewer and storm water systems, built in the early 1900s.

The state and the federal EPA have required communities to study CSOs and come up with improvement plans. The Massachusetts Water Resources Authority's Combined Sewer Overflow Plan, projected to cost some \$530 million, addresses this problem for the four CSO communities in the Greater Boston area. The most expensive component is a planned North Dorchester Bay and Reserved Channel project in South Boston, which calls for eliminating CSO sewer discharges to "sensitive use areas" such as beaches, reducing or treating discharges to other water, and controlling any sewage that remains. Approaches include replacing some pipes with dual pipes, creating sewage storage facilities, and enhancing treatment facilities.

Since 1994, the MWRA has closed 21 CSO outlets, reducing CSO volume by 70 percent. The agency has also begun to treat at least 60 percent of the remaining flow. These efforts have helped the cleanup of the Charles River now under way.

***Charles River cleanup:*** Beginning near the Rhode Island border and flowing 47 miles, the Charles River wraps around Newton from the south, creates the border between Boston and Cambridge, and joins the Mystic River to form the inner harbor on its northernmost end. In 1995, the EPA's Clean Charles program set a deadline of 2005 for a complete restoration of the waterway. With its closures of CSO outlets as part of this effort, the MWRA has removed 1.6 billion gallons of untreated wastewater annually from the Charles River, according to Robert Zimmerman of the Charles River Watershed Association. Communities in the lower Charles have also removed illegal tie-ins to sewer pipes, cutting illicit discharges by 1 million gallons a day.

Water quality has improved dramatically. During 2000 alone, the cleanliness of the river improved from a "B-minus" to a "B" grade—much better than the "D" five years ago. According to EPA and Zimmerman, in 2000 the river was clean enough for boating 90 percent of the time, compared with 39 percent in 1995, and met swimming standards 59 percent of the time, compared with 19 percent in 1995. However, the river's cleanliness varies from place to place depending on the day, rain conditions, and land- and water-based accidents. And 23 percent of the Charles' surface water rates as impaired or threatened.<sup>38</sup>

The EPA, the Charles River watershed team, and the watershed association are now working with communities to manage storm water runoff, water laced with pollutants other than sewage that flows directly into the river during stormy weather. Ten communities in the lower watershed have filed storm water management plans with EPA. Along with actions such as sweeping streets more often, this effort entails educating residents about the need to control the use and disposal of fertilizer, pet waste, and automotive products.

But closing CSO outlets and cleaning up stormwater overlook the core problem: that current water systems are designed to treat rainwater as waste. Massive parking lots funnel rain water down storm drains rather than allowing it to percolate into the ground and recharge groundwater. Lawns sit higher than pavement, which in turn rests above street level. The design funnels rainwater—along with contaminants such as pesticides—quickly down storm drains.

The result, according to Zimmerman, is that area wetlands and aquifers essentially go dry between April 15 and November 1. Building bigger storm drains only hasten the inevitable: that every town within Route 495 faces a serious shortage of water within 20 years.

*Other rivers:* As on the Charles, cleanups are under way for the Mystic, Chelsea, and Neponset rivers. Janet Kovner of the Mystic River Watershed Association says 150 years of industrial development directly abutting the Mystic—from its headwaters as the Aberjona River in Reading through Woburn, Winchester, Medford, and on to the sea—have taken a toll. The Amelia Earhart Dam behind Somerville's Assembly Square, built in the 1960s, for example, dramatically changed the water flow and eliminated the river's twice-daily tidal flushing.

The MWRA is now working with the City of Cambridge to address combined sewer overflows that contaminate Alewife Brook, which feeds into the lower Mystic. In December 2001 the EPA announced an effort to collect and distribute real-time data on water quality at five remote monitoring sites to inform area residents—some 10 percent of the state's population—when they can fish and swim in the river.<sup>39</sup> The watershed association is also collaborating with researchers and students at Tufts University to monitor water quality at 10 sites along the river.

The Neponset River has made great strides over the past five to ten years. Some 80 miles of the waterway and its tributaries—two-thirds to three-quarters of the total—are now swimmable, according to Ian Cook of the Neponset River Watershed Association. Water quality remained poor even after the federal Clean Water Act helped eliminate pollution from point

sources such as factories in the 1970s. As part of a watershed pilot project in 1994, the state and federal governments devoted significant resources to assessing water quality. The project found that municipal sources posed the problem in the form of “sanitary overflows.” In contrast to combined sewer overflows, which result from the combination of stormwater and sewage, in this case groundwater leaks into sewage pipes, causing sewage to overflow into the river.

To target this problem, volunteers from the watershed association monitor water quality at 39 locations 10 times per year, producing federally and state-certified data (the state itself performs comprehensive sampling only every five years). The results have been used to pinpoint and remediate municipal leaks and sanitary overflows. Despite significant progress, the need to further identify and control these sources continues.

The goal now, says Cook, is to go beyond simply avoiding illness from the river to restore stream flow and support native biodiversity by adopting a watershed approach. Doing so will require determining how much volume the river needs to remain healthy, and working with communities to maintain local water balance and use water efficiently. That, in turn, will entail weaning communities from reliance on Deer Island for treating waste and thus drawing more water out of the watershed than they restore. This local stewardship approach, Cook notes, will require convincing Neponset watershed communities of the wisdom of septic systems, and to respond to residents’ requests for towns to take responsibility for maintaining septic systems just as they do sewage systems.

Local activists on the Chelsea River see water access and cleanup as the focal point for a larger strategy to improve the area’s environment and attract sustainable development. The two-mile Chelsea Creek, as it is colloquially known, snakes through one of Greater Boston’s mostly densely populated and developed areas. The riverfront’s designation as a port area has allowed an influx of oil tank farms as well as storage of a 15,000-ton salt pile for use on the region’s roadways that is laced with a cyanide-based anti-caking agent. The port designation and private ownership of riverfront property, meanwhile, has excluded public access to the river.

The Chelsea Creek Action Group, composed of two nonprofit agencies from East Boston and Chelsea, is dedicated to cleaning up contaminated land along both sides of the river and transform it into a recreational and economic resource. The group has enlisted residents in a multimillion-dollar project to restore a 38-acre saltwater estuary on nearby Mill Creek and create public access, and is also working with federal and state funders and businesses as well as residents to remediate and redevelop an abandoned oil

tank site. The old Hess Oil Terminal and the urban wild take up over 12 acres of waterfront property and are unusable for either recreational or economic purposes. The longterm goal of the CCAG is to involve ethnically diverse communities in the transformation of the Chelsea Creek into an environmental, recreational, educational and economic resource for East Boston, Chelsea, and the region.

Because the area's diverse, low-income population sustains asthma rates three times the state average, the group has also won commitments from tank farm owners to retrofit trucks to control diesel emissions and limit the hours of operation for heavy trucks.<sup>40</sup>

**Water shortages:** Boston and its surroundings are wet. With its 42 inches of precipitation annually, Boston is even wetter than Seattle, which gets 36 inches annually. But the area still suffers from water shortages in areas that have depleted underground sources of water. Over a third of Massachusetts communities, many in Eastern Massachusetts, issued water-use restrictions in 1999; well over half of those restrictions were mandatory. Twelve communities exceeded their state-imposed municipal water budgets in 2001, and 12 more communities are likely to exceed those limits in the next 25 years.<sup>41</sup> Boston and its immediate neighbors have so far been spared.

Municipalities on the edge of Greater Boston, especially along Interstate 495, are growing exponentially even as their water sources are draining dry. The towns of Wilmington, Reading, and Stoughton have petitioned to join the MWRA's service area and expand its scope from the 61 communities it already serves. Every 100 new houses drink up another 25,000 gallons of water daily. The town of Franklin alone built 300 to 400 new houses each year during the 1990s. Suburban lawns alone suck up water quickly—a 5,000 square-foot lawn needs up to 6,000 gallons of water each week.<sup>42</sup> A few towns such as Wareham have established a progressive rate structure. These systems are designed to encourage people to conserve water: the more they use, the higher the rates they pay.

Many communities on the upper Charles—some of the fastest-growing cities and towns in the state—treat and release wastewater downstream of their water supply, short-circuiting the hydrologic cycle and producing unsustainable net losses, says Sara Cohen, leader of the Charles River watershed team. Karl Honkonen, head of the state Watershed Management Initiative, says that depleted water supplies require more aggressive treatment for drinking as the impacts of rising population undercut water quality. To help remedy this problem, the Watershed Initiative's Upper Charles Regional Groundwater Modeling Project, pursued with the Charles River Watershed Association, aims to measure how much water communities are

taking out of the ground and how much they are returning, and to determine the minimum flow needed to sustain natural habitat. A second phase of the project will evaluate different scenarios for recharging groundwater to ensure the long-term health of the watershed.

***Drinking water quality:*** In direct contradiction of the local stewardship approach, the Boston area has long imported much of its water from the Quabbin and Wachusett reservoirs in central and Western Massachusetts. The MWRA is constructing two treatment plants to improve drinking water quality at Walnut Hill in Marlborough and Quabbin, with the former designed to serve almost all Greater Boston residents.

Boston's water system comes at great expense to consumers, who paid an average of \$675 in 1998. The city's water pipes themselves contaminate drinking water. Often over a century old, many of the pipes contain dangerous levels of lead. The Boston Water and Sewer Commission is working toward its pledge to replace all pipes over 100 years old by 2010.<sup>43</sup> The BWSC has upgraded 150 miles worth since 1992.<sup>44</sup>

When cities such as Boston tap far-away reservoirs for water, assigning responsibility for cleaning up water can provoke controversy. In July 2001, the First Circuit Court of Appeals ruled in favor of the MWRA in *United States v. the Massachusetts Water Resources Authority and the Metropolitan District Commission*. The EPA had ordered the MWRA to install an expensive water filtration facility to treat water from Quabbin and Wachusett reservoirs. The MWRA claimed—and the appeals court agreed—that its joint efforts with the MDC to acquire and protect forested land around the reservoirs, among other measures, would ensure water quality. The MDC has spent \$75 million since 1991 on acquiring sensitive lands in three watersheds to protect drinking water, and plans to spend \$64 million more from 2000 to 2007.<sup>45</sup>

## **Environmental Actors in Greater Boston**

Environmental policies and programs in Greater Boston reflect a dynamic interplay among federal, state, and local actors. In particular, the region has a long history of strong statewide and local nonprofit groups successfully pressing public agencies to clean up and preserve the environment.

### ***The Federal Government***

On the federal level, the Region 1 office of the U.S. Environmental Protection Agency—responsible for New England—plays a significant role in shaping and leading policy. Robert Varney, who led New Hampshire's environmental agency for 12 years, was named regional director in the summer of 2001. Varney's record in New Hampshire included banning mercury thermometers



and lead fishing sinkers and working to improve air quality. Varney has stated that he aims to create strong state partnerships, and he is known for his ability to work with both environmentalists and business groups.<sup>46</sup>

EPA Region 1 addresses region-wide as well as community and site-specific problems. The agency has taken the lead in enforcing action on combined sewer overflows, for example, and has spent \$50 million assessing and cleaning up brownfield sites, as well as providing revolving loans to redevelopers. The agency's Urban Environmental Initiative targets lead poisoning, which continues to affect as many as 20 percent of children in Lawrence and some 10 percent in Boston, as well as diesel emissions. The agency has required Big Dig companies to use cleaner equipment and school bus companies to retrofit their vehicles with emissions controls. EPA New England is also aiming to extend energy efficiency guidelines to hospitals, schools, and supermarkets, and is enrolling communities such as Cambridge in the Cities for Climate Change Protection program, which measures an urban area's CO<sub>2</sub> footprint and tries to shrink it.

### *The Commonwealth*

The state's Executive Office of Environmental Affairs, directed by Secretary Robert Durand, manages and coordinates all of the state's environmental programs. A former Democratic state senator from Marlborough, Durand worked closely with environmental groups as chair of the Natural Resources Committee and developed a reputation as one of the strongest advocates for the environment in the State House. He authored the 1996 Rivers Protection Act, which creates a 200-foot development-free zone along streams and rivers, the Open Space Bond Act of 1996, and the Brownfields Bill. Durand also initiated the Community Preservation Act and worked for a decade to pass it.

EOEA includes several departments, including the Department of Environmental Protection and the Department of Environmental Management, which runs the state parks. The Office of Coastal Zone Management approves Municipal Harbor Plans for all waterfront development projects and thereby exerts great influence on implementation of environmental policy.

The Massachusetts Environmental Policy Act (MEPA) office is responsible for reviewing the environmental impact of all development projects, and therefore has a great influence on implementation of environmental protection. Some of its top priorities include open space protection, brownfields remediation, water quality and air quality. The director is Jay Wickersham, a lawyer who has embraced a wide range of smart-growth issues and who is

widely respected around the state for his balanced and imaginative approach to environmental and development issues. Wickersham has been a champion of the Urban Ring, a 15-year effort to develop a new transit line that connects the transit system's existing spokes. As assistant secretary of EOE, Wickersham interpreted laws and regulations regarding the 30 acres reserved for open space under the Central Artery Project.

The Massachusetts Water Resources Authority, created in 1985, provides water and sewer services to 61 cities and towns in Eastern Massachusetts and led the Boston Harbor cleanup. The MWRA, with an annual budget of \$502 million, has managed the replacement of combined-sewer lines since the authority's early days. Fred Laskey, formerly Massachusetts revenue commissioner, became MWRA head in June, having held various state finance and management positions since 1980.

The Metropolitan District Commission manages ice rinks and pools as well as parks and parkways throughout the Boston region. Directed by David B. Balfour, Jr., the MDC owns and manages fully half of all open space in the city of Boston. Created as the Metropolitan Park Commission in 1893 and renamed in 1919, the MDC's regional parks and roadways fall within a 15-mile radius from the State House, an arc formed by hills from Quincy and Milton in the south, Waltham in the west, and Lynn in the north. Perhaps the most notable parklands in the system are the Charles River Esplanade and the Blue Hills Reservation.

Governors as different as Democrat Michael S. Dukakis and Republican Jane M. Swift have proposed abolishing the \$55.6 million-a-year agency. Critics claim the MDC fails to maintain its parks and roads adequately, duplicates services, does not fulfill legislative mandates, and fills its payroll with patronage appointments. In the 1980s, the brand-new MWRA assumed MDC's water and sewer responsibilities. In 1991, the state gave control over the area's zoos to a nonprofit organization, and shifted control over the MDC police to the state police. In 2001, Governor Swift suggested allotting the MDC's 162 miles of parkways to the highway department and privatizing rink and golf course management. That would strip the MDC of all its responsibilities except management of parks—and another bill would fold the parks into the Department of Environmental Management.<sup>47</sup> But environmentalists fear that moving the parkways from the MDC to the highway department would put these nationally renowned corridors under the control of highway engineers, who might be more concerned about traffic flows than the quality of green spaces. Bills limiting the MDC's role have thus far been reported unfavorably out of committee, indicating that they are unlikely to pass soon.

### *Local Actors and Advocates*

The Boston Environmental Department, directed by Andrea d'Amato, works on all the environmental review processes occurring under city and MEPA review of new development. The department also oversees several other agencies and projects, including the Boston Transportation Department, the Boston Parks and Recreation Department, the Boston Conservation Commission, the Air Pollution Control Commission, and the Central Artery Environment Oversight Program. The Boston Urban Resources Partnership, a coalition of public and private groups that works on projects that combine community and environmental issues, also falls under the department's purview. The Boston Redevelopment Authority and the Department of Neighborhood Development oversee development, public facilities, and federal block grants for the city. Their project development and review have critical environmental components.

A number of nonprofit organizations are active in Greater Boston's environmental policy. The Conservation Law Foundation (CLF) has been a persistent voice on issues such as the Boston Harbor cleanup, the development of the South Boston Waterfront, the Central Artery mitigation agreements, mass transportation, urban sprawl, and energy policy. The CLF has a large staff headed by Douglas Foy that is willing to back its public words with legal action when it sees fit.

The Boston Harbor Association, headed by Vivien Li, aims to improve the harbor through bringing together stakeholders to lobby the state and city on issues related to open space, development, and access to the waterfront. The Charles River Watershed Association has played a central role in the cleanup of the river, development of programming, and development of a master plan for the Esplanade. The Boston GreenSpace Alliance (BGSA), under the leadership of Patrice Todisco, has addressed high-profile issues as well as small neighborhood parks, playgrounds, and gardens. The BGSA is developing an update of the acclaimed 1987 *Greening of Boston* report with a new vision entitled *The Emerald City*. The Boston Natural Areas Fund, led by longtime activist Valerie Burns, has helped to create greenways in East Boston and along the Neponset River in the Dorchester and Mattapan neighborhoods of Boston.

Influential lobbyists include the Massachusetts Audubon Society and the Environmental League of Massachusetts (ELM). Founded in 1896 to stop the slaughter of birds for women's hats, Mass Audubon combines extensive work in conservation and environmental education with research-based advocacy at the state and local level for protecting native habitats. The group owns outright—or development rights to—28,000 acres encompassing 100

conservation areas. Mass Audubon is working with a coalition of environmental groups to pass a five-year \$750,000 state environmental bond act, and is joining the Nature Conservancy and the Trust for Public Land to promote a \$1 billion program to protect an additional 1.3 million acres of important habitat.

Established as the Massachusetts Forestry Association over 100 years ago, the Environmental League conducts research, advocates for legislation, and promotes enforcement of regulations regarding conserving land, protecting water resources, and cutting the use of toxics. ELM has pushed for the Rivers Protection Act and the Open Space Bond Act, monitored companies' compliance with the state's Toxic Use Reduction Act, and authored the environmental justice bill now before the legislature. Some 2,000 individuals and households compose the league, which five years ago also created the Environmental Collaborative. The collaborative speaks out on behalf of 55 local, regional, and statewide organizations, including The Trustees of Reservations and the Appalachian Mountain Club as well as watershed management and land-use groups.

### **Policy Options for the Environment**

Some of the most pressing environmental challenges facing the Greater Boston area entail creating and implementing regional planning and management strategies. Many of these strategies require steering a middle course between environmental purity and pragmatism.

For example, 12 states have adopted a regional trading mechanism known as the Ozone Transport Commission, which aims to reduce smog-causing ground level ozone in the Northeast and Mid-Atlantic. The commission's NO<sub>x</sub> budget program allows a certain amount of emissions during the summer smog season (218,000 tons in 1999), which states allocate among power plants. This approach is a combination of a mandate and an incentive policy: it mandates a limited number of pollution units but gives companies a financial incentive to clean up their operations. Plants receive credits for beating their targets, and they can trade them or use them in the future. In 1999, emissions totaled less than half the amount in 1990, and more than 20 percent below the target. The commission will set stricter standards in 2003.<sup>48</sup>

Proponents claim that this market-based mechanism allows polluters to make greater reductions at less cost—especially since plant efficiencies and emissions levels vary dramatically across the region. Opponents are concerned that pollution will concentrate in “hot spots,” that certain communities will be dumping grounds for wastes of all kinds, and that trading could become

unenforceable and be abused. Critics also oppose the idea of pollution trading because it condones a certain amount of pollution. The idea that pollution can be a good with market value seems a perversion.

### *Transportation and the Environment*

Whether people are traveling by planes, trains, or automobiles, the transportation system of the region poses serious challenges for the environment. In almost all cases, the problem can be summarized in one word: congestion. The environmental challenges include airplanes circling over Logan Airport waiting to land, commuters stuck in rush hour traffic on Interstate 93 or the Massachusetts Turnpike, trucks rumbling through the region's old and narrow streets, buses belching diesel fumes in inner-city neighborhoods, and new commuter train lines cutting through marshlands and other sensitive habitats.

*Airport options:* Similar tradeoffs occur in the case of Logan Airport. When Virginia Buckingham resigned as executive director of Massport in 2001 after controversy over security lapses, Massport lost its most effective advocate for a new runway. Led by Mayor Thomas M. Menino of Boston and Congressman Michael Capuano of Somerville, opponents in Boston-area neighborhoods claim the runway would increase air and noise pollution. Massport claims that it does not plan to increase flights, but rather to accommodate existing flights more efficiently, thereby cutting air and noise pollution. But runway opponents say the new runway is a Trojan horse, and that Massport will increase the number of flights as soon as it builds the runway.

The number of people living near Logan affected by annualized 65-decibel noise levels has declined by half—roughly from 44,000 to 20,000—since 1990. At that point, the Federal Aviation Administration began requiring all commercial carriers to convert to Stage III aircraft or retrofit their existing fleets. The newer planes burn fuel more efficiently and thus more cleanly, so they are not only quieter but also produce lower levels of VOCs and CO. However, the new engines emit more ozone-producing NO<sub>x</sub>. The FAA and the International Civil Aviation Organization are now considering standards for Stage IV aircraft that might require a cut in NO<sub>x</sub>, greenhouse gasses, or both.<sup>49</sup>

Massport is pursuing a parallel approach to a new runway that could exert complex effects on the region: creating a regional network of airports in Worcester, Providence, R.I., and Manchester, N.H. These facilities could provide more convenient service to many New Englanders: a resident of Sutton, for example, could fly out of nearby Worcester rather than Logan, more than an hour's drive away. The regional strategy requires a concerted

effort to improve highway and rail connections among these airports and other transportation hubs.

The September 2000 Central Artery air pollution mitigation commitments require the state to develop transportation alternatives for passengers using T.F. Green Airport in Providence, which saw the number of passengers grow from 3 million in 1995 to 6 million in 1998. The city of Providence is currently seeking funding to build a train station at the airport itself. The MBTA has agreed to run trains there; the open question concerns how much funding would come from the T and how much from Rhode Island. If such service begins, the Route 128 parking lot could then be used as satellite parking for T.F. Green Airport. Policymakers need to consider whether that strategy might have the unintended consequence of making commuter rail less attractive to Boston's western suburbs, since parking is already limited at the Route 128 site.

The route between Boston and Manchester now includes much less transportation infrastructure. However, southern New Hampshire has experienced significant growth, and the airport could reduce the need for residents to travel to Logan. Indeed, traffic at Manchester Airport expanded by 75 percent in 2000. Massport is also planning to expand the use of Worcester Airport, which has a new \$15.7 million passenger terminal.

A regional air travel system could relieve pressure on Logan and distribute air and auto traffic—and thus pollution—more widely. The impact of the regional approach depends on how the airports are used. If they become hubs that allow fliers from, say, Chicago to transfer to flights to Miami, they might lessen travel from Logan; otherwise, they might be impractical for many travelers. And if people decide to drive from the Boston region to the smaller airports for cheaper fares or more convenient flights, a regional network could actually increase automobile traffic.

***Intercity rail:*** High-speed rail offers another approach to reducing air travel and thus air and noise pollution. The United States has long invested much more in air and car travel than in rail, but Amtrak's acting chair, Michael S. Dukakis, says a rail renaissance could become reality if the nation invests billions in track upgrades and new trains. Amtrak service on the new "high-speed" Acela is supposed to reduce the travel time between Boston and New York from five hours to three hours and thereby be competitive with air travel. The High Speed Rail Investment Act, now before Congress, would allocate \$12 billion in bond financing over 10 years for rail projects nationwide, including up to \$3 billion for the Northeast Corridor.<sup>50</sup> The problem—for both Amtrak and Acela—is that Acela has produced a disappointing early record. Amtrak is counting on Acela to provide a new stream of revenues to

help it balance its books. Because of rail lines and tunnels built a century or more ago and because those rails must be shared with cargo and other trains, Acela reaches its peak speed of 150 miles per hour for only one brief part of the Boston-to-New York trip. For the rest of the trip, Acela travels at around 100 miles per hour. The trip to New York takes three and a half hours under the best circumstances, when there are few stops and no rail delays. But the Acela is often brought to a crawl because of problems with systems or rights of way. To make the Acela competitive with air shuttles, even in the post-September 11 world, the train will have to perform better.

In December 2001, Amtrak resumed service from Boston to Portland, Maine, for the first time since 1965. The federal government invested \$55 million in the equipment and track upgrades that made it possible to begin service on the Downeaster route. Amtrak officials say the Downeaster will serve 320,000 riders annually and produce \$3.3 million in revenues (\$2 million less than the \$5.3 million in operating costs).

Despite high hopes about a new age in American rail travel, critics are unpersuaded. They say that Amtrak's management record and outdated infrastructure will prevent any significant shift in travel patterns between Boston and New York. When Congress passed the Amtrak Reform and Accountability Act of 1997, it required the quasi-governmental entity to become self-sufficient within five years. If Amtrak fails to wean itself from government subsidies, which totaled \$22 billion in the past quarter-century, it could be dismantled altogether. In December 2001, the Amtrak Reform Council began considering "day after" scenarios for Amtrak for the time when it is dissolved. Council members discussed the possibility of breaking up Amtrak into pieces for public, quasi-public, or private operation. The Council is expected to present a proposal for restructuring Amtrak in February 2002.

### *Smart Growth*

Many regional environmental efforts fall under the heading of smart growth, an idea that addresses environmental problems across the board. The primary goal of smart-growth advocates is to prevent the excessive "sprawl" of development—which gobbles precious open space, fosters traffic congestion, bleeds old cities and towns of population and economic activity, and creates an ugly and dysfunctional landscape of office parks, strip malls, and tract housing.

One element of smart growth is transit-oriented development: concentrating housing, retail, offices, and other development near existing transit nodes to increase transit use and reduce car traffic, as well as to create a

lively neighborhood. Much zoning currently prohibits transit-oriented development, but the Boston Redevelopment Authority is developing a citywide policy to encourage it. The town of Ashland recently changed its zoning code to create a “rail transit district,” a possible model for the Boston area. The district centers on the MBTA rail station and is intended to encourage development of high tech, research and development, incubator, and office space, along with retail and multi-unit housing. Design will be pedestrian and bicycle friendly, and in accord with the area’s natural setting.<sup>51</sup>

EOEA has already been advancing TOD through the MEPA process, requiring developers to include transit-oriented plans to gain environmental approval. Examples of new projects that would support transit-oriented development include the Urban Ring, the commuter rail extensions to Fall River and New Bedford, and the South Weymouth Naval Air Station, the largest development site in Greater Boston.

Smart-growth proponents also hope that the Community Preservation Act will prove a powerful way to preserve open space and reduce sprawl. The CPA, passed in September 2000, allows communities to impose a property tax surcharge of up to 3 percent to raise funds to protect open land, build affordable housing, and finance historic preservation. CPA advocates such as Elizabeth Adams of the Trust for Public Land maintain that revitalizing city and town centers and creating affordable housing are crucial to curbing sprawl—hence the links among the three activities.

### *City and Town Planning*

Creative approaches to environmental problems require smart local planning. Localities have the opportunity to enhance their ecological quality block by block, park by park, river by river.

Many towns and cities still lack the resources to conduct long-term planning. Executive Order 418, issued by then-Governor A. Paul Cellucci in 2000, established the multi-agency Community Development Plan program, provides technical assistance of up to \$30,000 to help towns create strategic plans.<sup>52</sup> According to Priscilla Geigis of the Department of Environmental Protection, 110 communities have signed on to the program so far.

The Livable Communities Act—sponsored by Senator Mark Pacheco, a Democrat of Taunton, and pending in the Senate Ways and Means Committee—would build on this process by allocating \$35 million for local and regional planning. The state’s 13 regional planning agencies, including the MAPC and the Cape Cod Commission, would each create a blueprint that encompasses air and water quality and transportation resources in their areas. These blueprints would target investment in locations with existing



infrastructure and discourage growth in environmentally sensitive areas. Communities would then develop a local plan that and submit it to the regional planning agency for certification. Communities with certified plans would receive priority in applying for state grants. A state Council for Sustainable Development would approve capital expenditures by each state agency to ensure that they do not subsidize sprawl. The bill is designed to create statewide consistency in land-use planning that does not now exist, according to Nancy Goodman of the Environmental League of Massachusetts.

Veronica Eady, director of environmental justice for EOEA, says her office has also made preserving land in urban centers a priority, even though the state's new biomaps do not necessarily correlate with urban neighborhoods. For example, EOEA's Urban Self-Help Program focuses on acquiring open space for public use, and has amended its regulations to consider environmental justice in scoring projects for approval. EOEA is also working with the Urban Ecology Institute at Boston College to inventory brownfields within the Mystic River watershed for use as open space, and the North Coastal watershed team has made reclaiming brownfields in Salem and Lynn as open space a priority.

***Community Preservation:*** Under the Community Preservation Act, communities have the opportunity to raise new funds for housing, historic preservation, and open space acquisition. To access the funds, the community must approve a ballot referendum to enact a surcharge on property taxes and establish a committee that plans specific projects. A fee imposed by the Registry of Deeds finances an annual state matching pool of over \$25 million. Thirty-six communities that have voted on the ballot question have passed it, including Cambridge (Boston defeated the question in the most recent election). By approving the full 3 percent surcharge, Cambridge voters agreed to raise some \$4.71 million each year for the three purposes.<sup>53</sup> At least 33 more communities will consider the ballot question in the spring of 2002.<sup>54</sup>

Smart-growth initiatives such as the CPA require strong planning, which in turn requires educated estimates of future growth. However, many cities and towns lack the resources to perform such research. To fill this gap, the EOEA's buildout project provides communities with long-term projections of population, school needs, and water use—as well as maps showing maximum development (“buildout”)—that will occur given current zoning. These scenarios, which the agency has completed for communities throughout the state, are designed to alert them to the need to plan future development. (The

Metropolitan Area Planning Council is coordinating the buildout analyses for the 101 cities and towns in the Greater Boston area.)

**Zoning reform:** Zoning provides an important tool to control the use of land in cities and towns. Communities create specific areas where certain kinds of development and activities may and may not occur. In addition to designating certain areas of the community as parks, gardens, or wilds, cities and towns have the capacity to create special districts to protect the environment. Overlay districts for open space, transit-oriented development, or historic areas can help to maintain the appropriate mix of activities in an area.

Ironically, the encouragement of urban styles of development—with high levels of density, a mix of residential and commercial buildings, and restrictions on parking—might be the most effective strategy to protect the environment. By channeling development away from so-called “greenfields” and toward already urbanized areas, cities and towns can protect their natural assets from development. Many communities resist density, however, making the classic “urban village” style of development difficult to create except after long periods of community process.

### ***Environmental Justice***

In recent years, community activists in urban neighborhoods have rallied under the banner of “environmental justice” to address the ecological problems that are concentrated in urban and minority communities. For years, poor communities have served as “dumping grounds” for noxious materials and facilities, such as manufacturing plants, garbage dumps, toxic waste disposal, and parking facilities.

Advocates of environmental justice aim to address environmental and public health problems in the hardest-hit communities such as Boston’s Roxbury neighborhood, home to 14 truck and bus depots within a one-mile radius. Roxbury, a predominantly minority community, is now fighting a planned influx of satellite parking lots owned by Northeastern University, Longwood medical institutions, Boston University, and the Red Sox. Neighborhood activists say that choking traffic and idling cars unfairly affect their residents.

The burgeoning environmental justice movement has begun to look beyond air pollution and take on the need to clean up brownfields and reclaim vacant land. Penn Loh of Alternatives for Community and Environment says the same regulatory dynamics that create suburban sprawl have discouraged investment in housing and cleaner jobs in minority and poor neighborhoods while allowing too many noxious facilities such as trash transfer facilities. Now that new investment is pushing back into poor

neighborhoods, the challenge is to ensure that development benefits rather than harms residents.

Regulators, Loh says, tend to focus on isolated environmental problems. For example, the Clean Air Act regulates pollutants only in outdoor air—even though people spend 90 percent of their time indoors. Medical workers respond to air-quality problems by expanding residents' access to treatment for asthma—even though the causes of the ailment are environmental. Approaches to both issues lack a comprehensive view that encompasses capital improvements in public housing to reduce contributors to the disease such as mold and cockroach droppings. Meanwhile projects to build new parking garages raise indoor and outdoor air pollution, use vacant parcels, and cut off neighborhoods from the larger urban community. Loh says access to high-quality affordable housing and better public transportation have become a significant focus of environmental justice advocates to reverse these trends.

Growing attention to environmental justice has resulted in the first steps toward policy initiatives. EOEA has created a draft environmental justice policy, which it submitted for public comment in December 2000.<sup>55</sup> The policy would require EOEA to set criteria for designating communities at risk and to determine whether development projects disproportionately impact minority, low-income, or immigrant neighborhoods, based on Title VI of the federal Civil Rights Act. Eady, the EOEA's director of environmental justice, says the agency is awaiting analysis of the 2000 Census, expected by June 2002, before implementing the policy.

A parallel bill sponsored by state Senator Dianne Wilkerson, a Democrat of Boston, would require EOEA to identify "areas of critical environmental justice concern," modeled on the agency's "areas of critical environmental concern." Wilkerson's bill would subject assessments of projects' overall environmental burden and public health to the scrutiny for uneven impacts on poor and minority communities during environmental permitting. Such areas would also receive priority for state funds directed toward sustainable economic development.<sup>56</sup>

Opponents claim that such designation would stifle economic development. "This bill is too broad," said David Begelfer of the National Association of Industrial and Office Properties. "Any project could be under scrutiny. This would affect any kind of growth." Other opponents fear that restrictions on siting power plants could lead to energy crisis.<sup>57</sup> However, the measure has won support from Environmental Affairs Secretary Robert Durand, and the Environmental League of Massachusetts and other environmental groups are actively working to pass it.

## **Making Greater Boston Green**

Across the region, elected officials and policy makers have developed a keener awareness of the importance of the environment for the quality of life in the region. Parks, waterfronts, gardens, wilderness areas, and farmland do not simply provide a much-needed respite from the rigors of metropolitan life. They also can lower the everyday costs of metropolitan living by reducing waste and cleanup costs, and they create a more attractive and efficient setting for businesses and families in Greater Boston. The challenge of environmental policy is to balance and integrate the needs of urban communities with the needs of a sustainable ecology.

### *Acknowledgement*

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## 4. *Moving Greater Boston: Transportation Challenges of the Region*

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*Terrance J. Regan*

**I**N 1996, THE MASSACHUSETTS BAY TRANSPORTATION AUTHORITY restored commuter rail service along two branches of the Old Colony Railroad to Boston's South Shore for the first time since 1959. Bringing back service on the lines cost the state \$604 million, making it the third most expensive transportation project in Massachusetts after the Central Artery/Third Harbor Tunnel project and the relocation of the Orange line. By 2000, some 8,400 passengers boarded trains daily on the Plymouth/Kingston line and another 9,000 passengers boarded trains daily on the Middleborough line. The lines were so popular that the MBTA was forced to expand its parking facilities at stations along the rail corridors. Communities along the South Shore, in turn, experienced a boom in property values and the strongest economic growth in the state. As commuters took advantage of the restored service, towns along a third branch of the Old Colony system, the so-called Greenbush Line to Scituate, fought to keep service from resuming. Opponents claimed that restored service would worsen traffic congestion, damage the environment, and undermine the small-town feel of their communities.

The revival of commuter rail travel in Greater Boston offers a telling glimpse into the many tradeoffs facing transportation planners in Massachusetts. The success of the Old Colony lines heartened many rail advocates who see public transportation as the state's best hope for reducing automobile congestion along highways such as Interstate 93 and Routes 3 and 24, which have dramatically changed the quality of life for residents in the suburban and rural communities not only to Boston's south but all over the metropolitan area. By taking tens of thousands of cars off the road, commuter rail also might offer a quicker trip to the city for those who must travel by car. Commuter rail boomed in Greater Boston in the 1990s, with the number of riders up by 41 percent in the decade, even though it remained a minor part of the overall transportation system. Perhaps the greatest benefit

of new commuter rail service is that a new generation of workers will develop new habits and expectations for the kind of infrastructure that the state should offer its residents.

But critics say these benefits are far outweighed by the costs of commuter rail—and the unintended consequence of even greater traffic congestion and an even more sprawling pattern of housing, office, and shopping development. The MBTA estimates that the commuter service to the South Shore will remove 6,600 cars from the highway, but the overall traffic on these roads is about 200,000 on Routes 3 and 24 alone. A reduction of 3.3 percent of all cars on the roadways will not make much of an impact, transportation experts say, especially considering the fact that many of the people using rail still have to drive to huge parking facilities to catch the train. But there are other impacts as well. The private bus carriers that operated service between the South Shore and Boston have seen a precipitous decline in ridership as people shift from bus to commuter rail. Meanwhile, the old belt-loosening strategy to relieve highway congestion continues; for the past decade the state has been studying the feasibility of expanding Route 3 South to provide more road capacity for commuters and shoppers.

The debate about where and how to invest in transportation infrastructure along the South Shore mirrors the dilemmas and tensions that have marked transportation investment across Massachusetts since Colonial times. The questions are basic. Should the private or public sector dominate travel? How much money should the government spend on infrastructure? How can government use its leverage to assure that travelers enjoy the widest possible range of choice? How do transportation issues relate to housing and economic development? What is the best way to provide people with access to the kinds of lifestyles that they want—urban, suburban, and rural—while insuring economic and environmental sustainability? How do transportation choices affect the classic “town village” lifestyles in New England? Should transportation policy lead or follow demographic trends? Should policy makers consciously seek to change people’s behaviors? All of the questions are complex. None of the questions are easy to answer.

Two major events have dominated the planning and programming of transportation projects within the Boston region over the past thirty years. The first was the Boston Transportation Planning Review (BTPR) begun in 1971 under Governor Francis W. Sargent and led by Alan Altshuler, Sargent’s secretary of the Executive Office of Transportation and Construction (EOTC). Despite his early support for the project—and intense pressure from U.S. Transportation Secretary John A. Volpe, who previously served as Massachusetts governor—Governor Sargent halted the design and construc-

tion of a series of highways, including the Inner Belt expressway through the communities of Boston, Brookline, Cambridge, and Somerville. The BTPR helped shift transportation policy away from highway expansion within the inner core and resulted in the first-in-the-nation transfer of federal highway construction funds for transit construction. The BTPR led to the extension of the Red Line from Harvard Square to Alewife and created a new Orange Line along the path of the planned highway. The BTPR also engaged the public and community groups in a way that had not happened before—and has not happened since.

The second major event involved the planning of the Central Artery and Third Harbor Tunnel project, popularly known as the “Big Dig.” Besides replacing the elevated section of Interstate 93 downtown, the state agreed to a number of transit and environmental projects to “mitigate” the impacts of the project on nearby communities. This process, begun under Governor Dukakis in the late 1980s and continued under Governor William F. Weld starting in 1991, committed the state to pursue an aggressive set of specific transit and non-SOV (“single-occupancy vehicle”) highway commitments costing billions of dollars. These commitments were subsequently incorporated into State Implementation Plan (SIP) by the Massachusetts Department of Environmental Protection. The projects that have already been completed include the extension of the Ipswich commuter rail line to Newburyport, the construction of the South Station inner-city bus terminal, the extension of the Framingham commuter rail line to Worcester, the reinstatement of the Old Colony commuter rail lines, the creation of high-occupancy vehicle (HOV) lanes on Interstate 93 north and south of Boston, and the addition of 20,000 new park-and-ride parking spaces in suburban locations. The projects under construction include the South Boston Piers Transitway and the modernization of the Blue Line. Projects with uncertain futures include the restoration of Green Line service to Forest Hills, the connection of the Red Line and Blue Line, and the extension of the Green Line from Lechmere to Medford Hillside.

These commitments still dominate the discussion about which future transportation projects are funded. Although vociferous public debate has occurred for each of these projects, formal processes for engaging the public and constituency groups has been less comprehensive than it was under the BTPR. Selected environmental advocacy groups, such as the Conservation Law Foundation, have played the major role in driving these decisions.

## **Transportation Issues Facing the Region**

Over the past three hundred years, several patterns have characterized transportation systems in Greater Boston and Massachusetts. The first major

pattern is *modal succession*. Every generation or two, one form of transportation investment pushes out the others. A major form of transportation in the mid-1600s was the water ferry. By the early 1800s, the state legislature approved the construction of private turnpikes. The mid-1800s saw the rise of passenger and freight rail with the Worcester line in 1834, the Lowell line in 1835, the Fitchburg line in 1845 and the Old Colony lines in 1846. They prevailed until competition from the automobile made fixed-routes seem like a needless inconvenience. Limited-access highways for automobile traffic forced many of the private commuter rail lines into bankruptcy in the 1950 and 1960s. From the 1960s until the present, the car has been king. But planners desperate to reduce highway congestion have embraced Commuter Rail.

The second major pattern concerns the *difficulty of developing multi-model transportation*. Because of the volume of daily automobile trips and dispersion of jobs and homes, residents of the South Shore rely primarily on highways and other roads. Residents are often eager to get out of their cars, and the government has responded with Commuter Rail, expanded Red Line service, and water ferries. What makes multi-modal systems difficult is that each mode needs infrastructure, customers, and policies that serve its own needs—and which frequently are in conflict with the needs of other modes. The Old Colony line, for example, requires 54 road crossings at street level, frustrating drivers on those streets. National highway standards, to take a second example, also impose the goals of speed to the expense of streetscape design and pedestrian spaces, to the detriment of walking and transit. Private buses and vans, to take a third example, often undo the environmental gains of public transportation. The best strategy for fostering multi-modal transportation is to encourage dense clusters of housing, shopping, offices, and factories. But with a few exceptions, land-use patterns have moved in the opposite direction—toward tract housing, malls, and office parks. No amount of investment in multi-modal transportation systems can overcome dispersed development patterns.

A third pattern is *the inevitability of public financing of transportation*. Although the automobile is considered the ultimate form of private transportation, it requires billions in publicly financed streets and highways. Rail travel was once private, but competition from cars and complications along routes requires public subsidy and coordination. Ferries, once considered an anachronism in the blustery communities in Greater Boston, have returned to provide a way to stay off the roads for extended periods—but requires considerable subsidies to survive. The key question in transportation policy is not whether to spend public money, but how to spend money and how much. Each expenditure on one form of transportation means less money for



others; in the world of transportation, win-lose propositions are more frequent than win-win solutions.

As the region approaches the end of construction for the Central Artery, the \$14.5 billion mega-project to replace the existing elevated highway and provide improved access from the Massachusetts Turnpike, the Commonwealth faces a host of questions about where the next major capital investments should be. The lead-time for the planning and construction of large projects is at least a decade. Given the period of time between the visioning of a project and the completion of construction, the policy leaders and the public need to determine what the major transportation needs of the next twenty years will be and how to mobilize the political will and financial capacity to pay for them.

Whatever the priorities, the capital and operating costs for the transportation system in Massachusetts exceed the amount of public money available. Over the next three years, the Boston Metropolitan Planning Organization will allocate over \$4.3 billion in highway and transit capital projects.<sup>1</sup> The decision to fund one project means that money may not be available to fund other competing or complementary projects. Hard decisions over which projects to fund confront policymakers on a daily basis. Areas of competition include trade-offs between highway and transit, urban versus suburbs, and maintenance needs versus expansion projects.

The process of deciding when and how to fund transportation projects in eastern Massachusetts is highly political. The Governor and Legislature each weighs in on the decisions with vocal input from the private sector, local communities, and public interest groups. The state legislature has been and remains dominated by Boston area politicians. Governor Michael S. Dukakis worked to forge a suburban-urban coalition to support increased investment in mass transportation. Building that coalition required extending commuter rail service to the suburbs to gain political support for reinvestment in the urban core. For the most part, this coalition has remained unified in its support of transit capital projects. But some dissent has come from urban bus proponents who believe that recent commuter rail expansions have been funded at the expense of bus modernization.

### *Demographic Trends*

The demographics of Greater Boston hold the key to transportation issues in the region. The Boston Metropolitan Planning Organization uses demographic data to understand current travel patterns and make projections about future patterns. After predicting how, when and how often people travel within the region, the model predicts the demand on each of the major

portions of the existing or proposed system. The model area includes a total of 164 communities in Eastern Massachusetts with socioeconomic and land use forecasts from MAPC and transportation baseline information gathered through various data collection methods. Four major variables help to predict the type of travel within the region: population, households, employment, and automobile ownership.

From 1970 to 2000, the population of the 101 communities that make up the Boston region has remained relatively stable at around 3 million people, but the number of households has increased by over 25 percent.<sup>2</sup> The average household has decreased from 3.2 people in 1970 to 2.6 in 2000 as the composition of a family unit has changed and more people live on their own. This means that more people travel alone and are more likely to own an automobile. The employment within the region has grown by over 50 percent during this three-decade period. While Boston and Cambridge remain the major employment centers of the region, there has been a dispersion of jobs beyond the Route 128 corridor.

Of the 1.1 million households within the region, approximately 88 percent own at least one automobile and 57 percent of households have two or more autos according to the 1990 U.S. Census. The 2000 Census will presumably show an even higher rate of auto ownership. During the 1990s, the number of vehicles registered in the state of Massachusetts grew by 40 percent. As of 1998, there were more vehicles registered in Massachusetts than licensed drivers.

These demographic patterns have profound implications on how we travel. As household size decreases, people are less able to share automobiles or coordinate trips. As employment grows but population stays the same, those jobs tend to be filled by workers driving in from outside the region, with resultant longer commutes. There is also a correlation between income and auto ownership. As household income rises, the number of automobiles per family increases. As more people own their own auto, the marginal cost of any one automobile trip is relatively inexpensive. Therefore it becomes harder to provide attractive transportation alternatives to an automobile trip to a large segment of the public.

Residents within the greater Boston region make about 14 million trips per day. About one-third of all daily trips are work-related; the rest involve shopping, recreation, school or other types of travel. Approximately 79 percent of all of these trips within the region are by automobile, 16 percent are by walking and 5 percent are by transit. The high level of auto trips and corresponding low level of transit trips is directly linked to the socioeconomic and land use shifts that have been evolving within the region since World War II.

Over time, the region has seen a greater dispersion of trips as population and employment has shifted from the inner core to the suburbs outside of Route 128 and I-495. Today, trips produced outside of Route 128 account for 56 percent of all trips within the region. These trips that involve suburb to suburb travel are the ones that are most difficult for transit to serve. As the economic and housing base expands beyond the urban core, residents become more and more dependent upon the automobile.

Unlike areas in the South and the West, the majority of the transportation infrastructure within the region was in place well before the dominance of the automobile. The urban core has maintained a dense mix of housing and employment centers. The older suburban towns are usually anchored by a traditional village center with a transit station. But many of the suburban communities outside of the Route 128 corridor have seen the same pattern of sprawl as the South and West.

For a time, the dispersion of jobs and residents to the suburbs reduced the amount of congestion experienced on the major roadways of the region as travel was spread out into the suburbs. Growing suburb-to-suburb travel has exacerbated congestion on both urban and suburban roadways throughout the region. But this dispersion of jobs and housing has made residents more dependent on the automobile and made it more difficult for the transportation agencies to provide travel alternatives to the automobile.

### *Roadways and Congestion*

Whatever hopes “smart growth” advocates have for creating a new generation of public transportation in Massachusetts, automobiles will continue to dominate transportation in the coming decades. The major transportation challenge, then, will be to provide adequate infrastructure for automobiles that do not cause needless traffic congestion, damage the fabric of traditional city and town centers, or provide undue disincentives for potential public transit users to shift to automobile travel.

Major problems involving the roadways include growing urban and suburban congestion, competition within the streetscape, the aging of the existing infrastructure and the cost to maintain or expand it. There is also the need to better understand the impacts of transportation investment decisions on the land use and economic development of the region.

There are 23,000 lane miles of roadway within the Boston region with a daily average of 62.5 million vehicle miles of travel. Arterial streets, those that provide a high level of mobility at a relatively high speed, account for 29 percent of the lane miles but carry over 80 percent of all the daily vehicle miles of travel.<sup>3</sup>

The growth in roadway traffic is expected to continue into the future. The Boston Metropolitan Planning Organization (MPO) projects that from 1995 to 2025 VMT within the region will increase from 109 million miles per day to 143 million miles per day, a 33 percent increase. Vehicle hours of travel within the region will increase from 3.3 million hours per day to 4.8 million hours per day. Because of increased congestion, average travel speeds will be reduced by 10 percent from approximately 33 miles per hour to 30 miles per hour.<sup>4</sup> One of the positive by-products of the congestion and relatively slow driving speeds within Boston and Massachusetts as a whole is the fact that Massachusetts has the lowest auto-related fatality rate in the nation. There are an average of 2.2 fatalities per 10,000 licensed drivers nationally, while the rate in Massachusetts is .9 fatalities.<sup>5</sup>

In the past, urban congestion was a fact of life for many commuters; in recent years, the congestion has spread to the suburbs as population and employment have shifted out from the urban core. The answer to solving congestion used to be to simply build more roadway capacity—the equivalent of a fat man loosening his belt to accommodate a growing belly—but transportation experts now agree that such an approach is not as feasible as it has been in the past. The costs associated with acquiring new right-of-way and complying with environmental requirements have become exorbitant. New roadways also meet with stiff neighborhood opposition and require expensive mitigation measures to offset burdens placed on the area.

With the passage of the Inter-modal Surface Transportation Enhancement Act (ISTEA) in 1991, the Federal Highway Administration began the process of shifting its focus away from financing roadway expansion and is now promoting the better, more efficient use of the existing roadway network. ISTEA initiatives include the use of intelligent transportation measures such as the coordination of signals, the introduction of better monitoring of roadways, and measures to provide better real-time information to travelers. ISTEA also allowed for road money to be diverted to transit improvements, traffic-calming strategies, and bicycle paths.

Massachusetts has invested little money to expand its interstate system within the region since Governor Sargent's decision to halt the Southwest Expressway and Inner Belt projects in the 1970s. Besides the completion of I-93 from the Tobin Bridge to Medford and the expansion of I-495 and Route 3 North, the only additions have been projects related to the Central Artery project. The Central Artery North Area (CANA) was completed in the early 1990s to provide improved access from the Tobin Bridge on-ramps in Charlestown to the Central Artery connection near North Station. The Ted Williams Tunnel, constructed at a cost of \$1.5 billion, opened in 1995 to

commercial traffic. This tunnel provided a doubling of capacity to the cross harbor connection between Boston proper and East Boston and the North Shore. The South Boston Bypass Road, opened in 1993 to commercial traffic, provided a connection between I-93 South and the new tunnel. Other projects outside the region, including Interstate 90 and stretches of Interstate 495 in southeastern Massachusetts, have added to Greater Boston's highway network.

The only current major MassHighway roadway expansion projects in the region include the widening of a portion of Route 128 and the expansion of Route 3 North. Route 128 will be widened by one travel lane in each direction from Route 24 in Randolph to Route 9 in Wellesley, a total of 13.7 miles. This federally financed \$100-million project will bring the capacity of this section of Route 128 to the same level as segments to the north and south. MassHighway is studying the expansion of Route 3 South but is meeting stiff opposition from the environmental community over the impacts on wetlands in the median.

After input from the business community, the state legislature passed a bill allowing for the Route 3 North project to be constructed under a design-build contract, a new approach for Massachusetts. The project will widen Route 3 along a 21-mile corridor from Burlington to the New Hampshire border. Under the design-build system, a contractor works under a compressed time schedule and designs and builds the roadway improvements as part of the same process—rather than creating a complete design ahead of time and then building the road afterwards. The total cost for the project, approximately \$640 million, comes from an innovative financing plan that obligates bond money by pledging future highway funds that Massachusetts will receive from the federal government. A concern with pledging future federal funds is that it reduces the amount of money available in those future years for other roadway projects.

One of the byproducts of the Central Artery project is that the state has not had sufficient funding to support other major highway expansion projects. Even though total funding for highways increased in the state as part of the political deal to keep the Big Dig on track, there is some dispute about how much money was actually committed. Since 1995 and continuing through 2002, 71 percent of all the federal highway funding has been dedicated to the Central Artery project. For the period 1996 through 2000, the Boston region programmed approximately \$98 million annually in non-Central Artery roadway and bridge projects. For the five-year period from 2001 through 2005, MassHighway will spend approximately \$732 million per year on its highways. Of that, an average of \$305 million is dedicated to

the Central Artery. Of the remaining statewide funds, the Boston region will receive approximately \$144 million annually for all of its non-Artery related road and bridge projects. Even after the construction of the Central Artery is completed, the state will continue to dedicate 50 percent of all its federal highway money to the Central Artery through the year 2010.<sup>6</sup> The state also pays in the interest on GANS (notes issued in anticipation of future federal grants), which does not show up in budgets as highway spending.

A major concern today for the communities is how to balance competing interests along existing roadways. Most of the arterial roadways connecting town centers have been in existence for over a hundred years and were designed to carry limited traffic. These roads usually do not meet the modern design standards for capacity and safety of the American Association of State Highway and Transportation Officials (AASHTO). All across the region, communities face difficult tradeoffs between the need to expand the road capacity, provide parking, meet bicycle and pedestrian needs, and maintain the roads' historic or rural characteristics. Some towns have the knowledge and political will to balance these competing needs, but others do not. The town of Hingham is trying to improve sections of Route 228 that travels through its historic downtown, but in order to meet MassHighway standards, the project would require the removal of over 100 trees, something residents are loathe to do. The Town of Brookline recently went to the state legislature to force MassHighway to allow a design waiver for improvements to Beacon Street. The governor vetoed the legislation, but the House and Senate overrode the veto.

To promote alternative means of travel, the state legislature has required that bicycle and pedestrian needs be taken into account whenever roadways are reconstructed. Many cities and towns have sought to accommodate bicycle needs by widening the roadways, which in turn means encroaching on open or historic space and cutting down trees along the path of travel. This is especially difficult when these roads pass through the historic centers of towns and threaten to change the quality of life that makes town centers so desirable. MassHighway has safety and capacity as its top concerns; in many towns, the primary goal is retaining the existing character of the road and community.

Rather than investing money in capital improvements, many times operations activities can enhance or expand the use of the roadways. Operations activities include strategies to increase the average occupancy rate for vehicles, help in relieving congestion, and allow for a more efficient use of the roadway. Operations activities address issues of recurring congestion, regular rush hour traffic, and non-recurring activities such as accidents,

roadway construction, or other kinds of isolated incidents. Having the resources to respond to these everyday contingencies can save hours of motorists' time.

Currently, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) are leading a national effort to adopt Intelligent Transportation Systems (ITS). ITS involves the integration of computers, communications and electronics into the operations of the roadway network. Some of the better known ITS measures implemented in the Boston region include the SmartTraveler information service, the \*SP program, the FastPass and the Motorists Assistance Program (MAP). SmartTraveler is operated by a private company with support from the state to provide real-time driver and transit information. If commuters are more aware of the status of the transportation system, they are more likely to make changes in response. The \*SP program allows cell phone users to make a toll-free call (by punching the \*, S, and P keys on cellular telephones) to the State Police to report accidents or problems. By responding more quickly to an accident, the resultant backup can be reduced. FastPass is the MassPike's electronic toll collection system which is interoperable with other Northeast states toll facilities. The MAP provides vehicles that patrol the interstate system and provide assistance to motorists. FHWA has estimated that non-recurring congestion, accidents and other events, are responsible for 60 percent of all roadway congestion. Each minute saved in responding to an incident can save 15 minutes of congestion build up.

Transportation demand management (TDM) measures offer another strategy to reduce automobile traffic on city streets especially. Under TDM systems, major employers and institutions such as universities and medical institutions provide a wide range of transportation alternatives, such as van service, free or subsidized transit passes, access to cars for family emergencies, and carpooling and other ride coordination services. TDM also works with employers to create flex-time so that workers can travel to the job on off-peak hours. Major institutions like Harvard University, the Longwood Medical Area, and Artery Business Committee have set up TDM systems. Even the most aggressive TDM efforts, however, yield only marginal changes in traffic patterns in the city and region. The "CommuteWorks" program of the Longwood Medical Area in Boston exhorts its workers and students: "People who use alternatives to driving alone save as much as 75 percent on the cost of commuting. Make your commute easier on you and your wallet." But most workers resist the appeal because of the convenience of auto travel.

Greater Boston's infrastructure is aging and in desperate need of rehabilitation. The average age of the bridges in the region is 40 years.<sup>7</sup> Most of

the interstate highways were built between 1950 and 1970. The major arterial roads connecting regional centers have been in use since the early 1900s. In the most recent transportation plan of the Metropolitan Planning Organization, the Boston region allocated 70 percent of its non-Central Artery funding to maintenance and preservation of the existing system. This will allow the region to go from spending roughly \$90 million per year for the period 1996 through 2005 to spending \$105 million in the years 2006 through 2010 and then at least \$155 million in the “out” years of 2011 and beyond. The condition of Massachusetts bridges and roads is generally considered among the worst in the nation.

At times transportation systems are used as a tool to promote economic development. The Dukakis administration instituted a program of public works and economic development grants, entitled PWED. These grants were awarded to targeted communities to help promote economic development. But the awarding of these grants was often caught up in the world of political spoils. While the state does not have any formal method for targeting transportation infrastructure—as do states like Georgia, Maryland, and Oregon—a number of redevelopment projects in Massachusetts are dependent upon the state providing the roadway and transit investment. The Woburn Industriplex Intermodal Center involves the reclamation of an Environmental Protection Agency (EPA) Superfund site by MassHighway, Massport, and the MBTA. This center will include a commuter rail and Amtrak station, a 2,400-space parking lot, and a Logan Express shuttle. The project is possible because of the construction of a new I-93 interchange and associated roadways. The new interchange also allows the redevelopment of adjacent land for industrial and commercial uses in Woburn.

Another example of transit-driven development is the set of roadway improvements in association with the Telecom City redevelopment project in Malden, Medford, and Everett. This redevelopment project, coordinated by the state-chartered Mystic Valley Development Commission, is heavily dependent on state transportation improvements. The Boston MPO has included \$24 million in highway improvements in its transportation plan for the site. Possible transit improvements include improved access to the Orange Line and commuter rail lines.

A third example of transportation-driven development is the redevelopment of the Weymouth Naval Base. The proposed development was contingent upon roadway improvements to support the volume of new traffic generated. The development is on hold and the transportation improvements were never committed. In each of the cases the governor and state legislature were involved in targeting state financial assistance and infrastructure money



to the projects. But these were all done on an ad-hoc basis. There is no mechanism to identify, prioritize and designate funding of transportation dollars to promote economic development.

### *The Central Artery*

The “Big Dig” project—the multi-billion-dollar project to replace the downtown Boston portions of the elevated Interstate 93 with an underground highway and tunnel—has dominated transportation policy in the region for more than a decade. But concerns about the Central Artery in fact go back to 1951, when construction of the highway began.

The elevated highway runs from the area south of South Station through Chinatown, the Financial District, the North End, and a crossing over the Charles River near North Station. Discussion on improving or replacing the Central Artery began even as the structure was being built. In fact at one point, construction of the highway was halted by John A. Volpe, then the Massachusetts Commissioner of Public Works, so that the South Station section could be redesigned and placed in an underground tunnel. Volpe’s redesign of the artery near South Station also involved intense disputes about the route, particularly its place in downtown Boston. The highway exacted a heavy price on the social fabric of downtown Boston with the removal of over 1,000 residential and commercial buildings.

At the center of the issue were Michael Dukakis, who served as governor from 1975 to 1979, and Edward King, who served as chairman of Massport and then defeated Dukakis in 1978 and served as governor from 1979 to 1983. (King was fired at Massport in 1975.) At the urging of Secretary of Transportation Frederick W. Salvucci, Dukakis advocated placing the Central Artery underground, while King supported building a third harbor tunnel from Boston to East Boston. The tunnel project would have required the taking of homes and businesses in densely populated East Boston. In 1983, Governor Dukakis, once again at the urging of Salvucci, proposed a blending of the two projects. The new tunnel would run along a railroad right-of-way through South Boston and surface on Massport property in East Boston, thereby avoiding any takings of homes. By overriding President Ronald Reagan’s veto, Congress approved federal funding for the Central Artery project in 1987. Originally estimated to cost \$2.7 billion, the price tag has now risen to \$14.7 billion with construction expected to be completed in 2005.

When finished, the Central Artery project will move underground sections of I-93 passing through downtown Boston, extend the Massachusetts Turnpike to Logan Airport, and create a third harbor tunnel known as the Ted Williams Tunnel. The resulting freed-up land will provide 27 acres of

land for development and park space. Out of the approximately \$510 million Massachusetts receives in annual federal highway funding for the state, 71 percent is devoted to the Central Artery project through the year 2002. The remaining 29 percent is used to rehabilitate and construct all of the rest of the roads and bridges in the Commonwealth.<sup>8</sup>

In 1997, the Massachusetts legislature created the Metropolitan Highway System (MHS) to unify the operations of the Central Artery and other toll facilities in the urban Boston area. The other components of the system include the three harbor tunnels, the Central Artery North Area (CANA), the Massachusetts Turnpike to Route 128, and the Seaport Access Road (the extension of the Mass Pike to the Ted Williams Tunnel). As part of the MHS the Central Artery will have a state-of-the-art system of electronic monitoring and incident management to maintain the flow of traffic. Elements include a traffic-control center that monitors the roads and tunnels 24 hours a day, stationing emergency vehicles at key points along the system to quickly respond to accidents or incidents. The operations of this system will cost an estimated \$25 million annually.

A common public misconception is that the Central Artery has a dedicated pot of federal money allocated to its construction; but specific earmarked funding for the Central Artery expired in 1997 with the passage of TEA-21. All federal funds now used for the Central Artery project are funds that could be used for any of the other road and bridge projects across the state. Big Dig money was earmarked as Interstate Construction money, which realistically could only be used for the Artery.

### ***Public Transit Within Greater Boston***

In 1964, the state legislature created the Massachusetts Bay Transportation Authority to replace the Metropolitan Transit Authority. The MBTA is charged with providing public transit to the eastern Massachusetts area, including the densely populated urban core and the more dispersed, auto-centric suburbs.

Public transportation in Greater Boston has grown incrementally over the past three hundred years along a hub and spoke pattern with downtown Boston as the center. The transit system includes three heavy rail lines (Blue, Red, and Orange), a streetcar/light-rail line (Green), 170 local and express bus routes, 13 radial commuter rail lines, water ferry service for the Inner Harbor and South Shore, and a complementary paratransit service. The transportation system is designed mostly to bring workers into the major employment centers of the Boston area. The system does a good job bringing people into Boston from outside neighborhoods of the city and region; crosstown trips or trips through the city to outlying regions are more diffi-

cult. The Commuter Rail system is also fragmented; passengers from the north come into North Station, and passengers from the south come into South Station, and there is no connection between the two entrepôts. As a result, a commuter coming to Boston from Rockport on the North Shore will have to take a separate trip to an office that is not near North Station. It is uncertain how many people actually have this problem, which is one of the reasons the project is viewed skeptically by planners.

Recent changes in settlement patterns pose difficult challenges for public transit, most notably the dispersal of both employment and residential areas and a dramatically lower level of density. In the 1950s over 60 percent of the residents and over 50 percent of the jobs were located in the urban core, which is defined as Boston and 13 communities surrounding it. This density of residents and employment present in the inner core makes transit a viable alternative to the automobile. Since then, the region has experienced the same trend of suburban sprawl in both housing and jobs as the rest of the nation. This dispersion of jobs and housing makes it harder for the MBTA to provide transit in an efficient and effective manner.

On a typical weekday, the MBTA has approximately 1.15 million boardings. The chart below shows the boardings for each of the major branches of transit service and gives the percentage of daily ridership for each mode.<sup>9</sup>

Mode	Daily Ridership	Ridership Share
Bus	375,000	32 percent
Red Line	225,000	19 percent
Green Line	223,000	19 percent
Orange Line	157,000	13 percent
Commuter rail	130,000	11 percent
Blue Line	57,000	5 percent
<b>Total</b>	<b>1,167,000</b>	<b>100 percent</b>

While often dismissed as not “real transit” by activists, the bus system serves as the workhorse of the system. The 170 routes provide urban circulation, feeder service to other transit modes, and express and suburban service for the suburbs. The bus system’s 8,500-plus stops are marked with nothing more than a sign on a post. According to the MBTA’s own figures, the system has fewer than 400 bus shelters throughout the system. The alignment of many of today’s bus routes has been maintained since the days of the streetcars in the early 1900s. While the past two decades have seen major investments in fixed rail and commuter rail, the same cannot be said for the bus system. The average age of the buses in the MBTA’s fleet is over 10 years, while the newest buses in the system date from 1995.<sup>10</sup> As is true in most

other major urban areas, the average bus rider is more likely to be lower-income and minority than the average rider of the rapid rail or the commuter rail system.

For all of the capital expenditures over the past two decades on commuter rail and fixed rail, the bus still accounts for one in every three daily boardings within the system. In fact, there are more daily boardings on the top fifteen MBTA bus routes than on the entire commuter rail system. Of the ten most used bus routes, six of them originate in the Roxbury neighborhood at either Dudley Square or Ruggles Station. Each of these ten routes carry more than 7,500 daily passengers, roughly equivalent to any one of the five commuter rail lines servicing North Station.<sup>11</sup>

The decade of the 1980s saw a major investment in rapid transit. The two major projects were funded with money transferred from the federal highway fund (FHWA) to transit (FTA). The Red Line was extended at both ends. The extension from Quincy Center to Braintree in 1980 pushed the Red Line further into the working class suburbs of Quincy and Braintree and provided over 3,500 additional parking spaces at Quincy Adams and Braintree stations. The extension of the Red Line north from Harvard was originally envisioned to go through Arlington and Lexington and terminate near Route 128. But this proposal met with opposition from residents in Lexington and then Arlington who worried about the changes a rapid transit line would bring to their suburban community. Ultimately, the Red Line extended only to Alewife with intermediate stops in the working class neighborhoods of Porter Square in Cambridge and Davis Square in Somerville. The right-of-way for the Red Line extension to Lexington has now been turned into the Minuteman Bike Trail, making a future extension of the Red Line to the north vastly more complicated. After the state abandoned the proposal for the Southwest Expressway, the Washington Street Elevated portion of the Orange Line was shifted to the Southwest Corridor right-of-way. The old Orange elevated line, which served the predominantly minority neighborhood of Roxbury, was seen by some as a hindrance to economic development along Washington Street. The Orange Line from Chinatown to Forest Hills was relocated in 1987 along the Southwest Corridor, which now has a continuous bicycle path as well. Whether or not to provide replacement transit service for the Washington Street corridor has occurred every year since. Some planners say that building the new Silver Line down Washington Street makes sense, while others would like the Silver Line to go down Blue Hill Avenue in Dorchester and Mattapan.

Driven for the most part by the Central Artery environmental agreements, the 1990s saw an infusion of capital into the region's commuter rail

lines. All of these projects undertaken by the Weld Administration extend the commuter rail system further into the more affluent suburban communities outside of Route 128, a Republican base. Most of the new stations are located along major roadways and are designed more for auto transfers, in contrast to the older stations located in or near town centers with pedestrian-friendly stations. The Framingham line was extended west to Worcester with limited service beginning in 1994 at a cost of \$78 million. Subsequently, four intermediate stations have been opened in Ashland, Southborough, Westborough, and Grafton.

Two branches of the Old Colony Line resumed service during the 1990s after a 40-year absence at a cost of approximately \$604 million. The Kingston branch of Old Colony opened in 1997 and provides service to Weymouth, Abington, Halifax, Plymouth and Kingston. The Middleborough branch opened in 1998 and provides service to Braintree, Holbrook, Randolph, Brockton, Bridgewater, Middleborough and Lakeville. The South Shore of the Boston region was the least developed portion of the region because of water and sewer constraints and the reintroduction of these two commuter rail lines has increased the development pressure within the South Shore. The Ipswich line was extended north to the communities of Rowley, Newbury and Newburyport in 1999 at a cost of \$56 million.

As of July 1, 2000, the state legislature and governor agreed to a restructuring of the financing of the MBTA. Under the previous financing arrangement, the MBTA would annually report its budgetary expenditures to the legislature after the fact, which would then appropriate the money to cover whatever gaps existed during the previous year. The MBTA's cost of service in excess of income for the years 1999 and 2000 was \$1.48 billion. But, after 26 years of paying the MBTA's bills after they were already expended, the legislature adopted the so-called "forward funding" system. This meant that the MBTA would have to adhere to a set budget and be responsible for any shortfalls in revenues. The legislation for the first time gave the MBTA a dedicated source of revenue (a one-cent allocation of the state sales tax). In addition it expanded the number of communities paying local assessments to the MBTA (an increase from 78 to 195) and recommended a fare increase. The reform also gave the MBTA the authority to issue bonds under its own credit. Previously, all bonds were issued by the Commonwealth under the full faith and credit of the state. Now the MBTA must go to the financial markets and borrow money under its own credit.

For fiscal year 2001, the cost of operating the MBTA system and paying current debt service was \$991 million. The MBTA collected a total of \$164 million in fare revenue and an additional \$39 million in non-fare rev-

enue. This includes advertising, real estate rental income and sales. The deficit of \$788 million is paid for with revenue from the state sales tax (\$644 million) and local assessments (\$136 million) and federal maintenance assistance (\$6 million). The MBTA is spending a total of \$395 million on capital projects. This includes a total of \$314 million in federal funds and \$78 million in T bond funds.

The MBTA faces numerous difficult decisions as it decides where to allocate its resources. The authority must make a number of tradeoffs, including:

- Capital expansion versus maintenance: How much capital funding should be expended on new projects as opposed to upkeep of the existing system
- Urban versus suburban service: How much should the authority seek to reinforce traditional patterns of transit use, with Boston's downtown as the hub to outlying communities? How much should the MBTA invest in new transit systems that connect suburban communities with other suburban communities?
- Environmental and accessibility responsibilities: How should the MBTA address its legal requirements for improve the environmental quality of its vehicles and service? What kinds of financial and service tradeoffs are necessary when considering the environment?

### *The Investment Debate: Expansion Versus Maintenance*

In 2000, a Blue Ribbon panel appointed by the governor and headed by Patricia McGovern, recommended that the MBTA allocate 70 percent of all future capital expenditures to the maintenance of the existing system. Those recommendations set a new ground for debate about whether the state can afford to make significant investments in new transit systems and services. Implicit in the decision to restrict spending on new expansion projects is the realization that every expansion project increased the operating deficit of the MBTA, currently above \$787 million per year.

Maintenance investment would pay for station upgrades, accessibility enhancements, replacement vehicles, bridge rehabilitation, and other maintenance needs. Current major maintenance and rehabilitation projects in the MBTA's five year capital plan include a new automated fare collection system (\$120 million), modernization of Red Line stations along the Ashmont branch (\$83 million), Blue Line modernization (\$226 million), enhancements to bus facilities (\$80 million), and the purchase of new low-emission buses (\$126 million).<sup>12</sup> This investment in the existing system would allow precious little money for the expansion of capacity.

In 2001, the MBTA had at least four categories of expansion projects on the drawing board that would cost in excess of \$1 billion each. The MBTA will not have the financial resources to build them all. The projects are the Urban Ring, the North-South Rail Link, Commuter Rail expansion (Greenbush, Fall River-New Bedford, and Rhode Island and New Hampshire extensions), and the Silver Line (the bus connection between Chinatown's Washington Street and the South Boston Piers). These projects all compete for the same funds. With the exception of the South Boston Piers project—for which the late Congressman J. Joseph Moakley was instrumental in securing \$600 million in the Federal Transportation Agency's "New Starts" money—none of the projects has secured federal funding commitments for construction. The Greenbush Line (\$580 million) and the Fall River-New Bedford commuter rail extension (\$500 million) would both be totally dependent upon state funds for construction. Each of these projects has its supporters and detractors.

*Urban Ring:* The Urban Ring project represents a vision for providing a "rim" to connect the "spokes" of Boston's radial transit system, while at the same time promoting economic development in Boston and surrounding communities. The Urban Ring could reduce travel times and improve access to employment centers outside of the downtown core, especially the Longwood Medical area and Cambridge. The MBTA's existing transit lines are set up in a radial pattern from the suburbs to downtown Boston, like spokes in a wheel, with little opportunity to make lateral connections with other lines except by traveling into the city and out again on another line. This idea to connect the spokes has been raised over the past several decades, but the cost of providing the service and the MBTA's focus on other projects meant that it never approached a design stage before.

A number of MBTA subway and trolleys are operating close to capacity, especially during rush hour. Problems are most pronounced in the Green Line subway and the Red Line from Charles Street to South Station. The Boston Redevelopment Authority (BRA) has been leading a regional coalition of six communities (Boston, Cambridge, Somerville, Brookline, Everett, and Revere) to promote the concept of the Urban Ring as both a transportation improvement and an economic land-use stimulus.

In June 2001, the MBTA released an initial environmental proposal presenting alternative options for the Urban Ring. Phase 1 would consist of enhanced bus service along the ring and would cost \$100 million in capital and \$23 million in annual operating costs. Phase 2 would introduce Bus Rapid Transit (BRT) technology, costing approximately \$500 million in cap-

ital costs and \$31 million in annual operating costs. Under this phase, several segments of the circular route would be outfitted with dedicated rights of way (lanes that are closed to cars), “intelligent vehicle” technology (in which transponders on buses change the light from red to green to reduce stops), and more frequent service. Phase 3 would expand upon the previous two phases and include light rail or heavy rail transit segments. This phase would cost an additional \$2.3 billion and would bring the total annual operating cost to \$56 million per year. Ridership estimates range from 40,000 riders per day for Phase 1 to 290,000 riders per day for Phase 3.<sup>13</sup>

Debates about the Urban Ring center on whether the service will provide “real” transit service or “just” bus service. Many transit advocates maintain that anything less than light rail would doom the project to insignificance. Rail service is considered superior because it provides more regular service and serves as a basis for large-scale development in the area. The pragmatists note that buses provide greater flexibility and lower cost of service compared to light or heavy rail. One leading proponent of the Urban Ring, however, states that the essential element is not so much what kind of service will be offered, but rather what kind of development would occur along the corridor. George Thrush of Northeastern University would develop the character of the transportation corridor by imposing strict design standards that create a strong “street wall,” civic monuments, and strong pedestrian spaces. Good urban design, Thrush offers, would lay the groundwork for a strong transit line.<sup>14</sup>

***North/South Rail Link:*** This project has been under study ever since North and South Stations were constructed in 1894 and 1899 respectively. But since the trains were operated by private companies, there was little incentive by the owners to connect the services.

The rail link would connect commuter rail service between North Station and South Station via an underground tunnel with a possible Central Terminal near the Aquarium Station. This would allow for expanded MBTA commuter rail and Amtrak service with improved connections for suburban riders. A similar project undertaken by Philadelphia in the 1980s now allows commuter rail trains to run from one suburban corridor through the city and out the other end. Preliminary estimates for the project range from \$1.5 to \$3 billion. During the preliminary environmental review of the Central Artery project in the late 1980s, the possibility of constructing the rail link beneath the Artery corridor was explored. But a decade later, the Central Artery is in peak construction and the Rail Link has progressed no further than the discussion stage. In many ways both the Urban Ring and the Rail



Link are trying to provide better connectivity within the region but they go about it from different starting points. One is mostly urban based and the other is suburban based. Because of the enormous costs of each of the two projects they are both dependent upon federal funding for full completion. In the competition for dollars, the Urban Ring has the support of Boston and the five surrounding communities and it is also able to be built incrementally.

**Commuter rail expansion:** Other commuter rail projects under consideration at the MBTA include the reinstatement of the Greenbush commuter rail line (\$500–\$600 million), the extension of commuter rail service to Fall River and New Bedford (\$400 million), and extensions to New Hampshire and within Rhode Island (T.F. Green Airport). The Greenbush line received final environmental certification to proceed with construction. EOTC is negotiating separate mitigation agreements with each of the South Shore communities it runs through.

**Silver Line:** When the MBTA removed the Washington Street elevated railway system in 1987 because of the relocation of the Orange Line to the Southwest Corridor, Washington Street was left without high-quality rail transit service. Ever since that day, there has been discussion and dissention about what type of replacement service to provide. The Number 49 bus now serves the Washington Street corridor. The MBTA is currently constructing a Bus Rapid Transit line (BRT) along Washington Street that will run from Dudley Square to Downtown Crossing. The project is estimated to cost \$54 million and use alternative fuel buses to run within a combination of reserved bus lanes and general traffic lanes. The Washington Street Coalition has been vocal in its opposition to this service and believes that light rail is the superior alternative. But many of the businesses along this route opposed light-rail service because of the amount of right-of-way required and the loss of on-street parking needed to accommodate the larger vehicles.

The other phase of this project under construction is the South Boston Piers Transitway. This federally funded transitway will run in a tunnel from South Station to the World Trade Center in South Boston. At this point the buses will run along surface streets and circulate in general traffic. The tunnel connection between Boylston and South Stations (\$700 million) is in the planning stages. Once all of the pieces of the system are put together, the Silver Line would provide a direct line from Roxbury through downtown to Logan Airport using bus rapid transit technology.<sup>15</sup>

**Urban versus suburban:** The MBTA is under constant pressure to expand service, but which service areas should be served? Urban residents are more likely to be transit dependent whereas many suburban communities have no

transit at all or only commuter rail service to Boston. Increased housing costs within the Boston urban area has forced many low-income residents out into the suburbs. Should existing service be increased, or should new service be instituted to help those who now reside in communities such as Framingham, Lynn or Quincy? Under the Clinton Administration the federal government and the U.S. Department of Transportation were placing a greater emphasis on environmental justice. The order requires transportation agencies to give explicit consideration to the impacts that transportation decisions have on low income and minority communities. It is unclear whether the Bush Administration will push the concept of environmental justice as hard. Organizations including Alternatives for Community and the Environment (ACE) and the Washington Street Coalition have been promoting environmental justice to prod the MBTA to spend more on urban riders, who are more likely to be minority, low income and transit dependent.

*Environmental and accessibility commitments:* As discussed earlier, the Central Artery environmental permitting process committed the MBTA to provide a set of new transit projects. The cost of these is in the billions. The state and the MBTA have made other environmental commitments such as agreeing to purchase only alternative fuel vehicles. The federal government requires the MBTA to move to a fully accessible transit system.

At the same time, the MBTA is faced with mounting costs for complying with the Americans for Disability Act (ADA) and environmental commitments that while they do not add expansion to the system are necessary to maintain or upgrade the existing system. The Blue Ribbon Panel estimated that the MBTA would need to spend approximately \$500 million annually on maintenance needs.<sup>16</sup>

### *Intercity Travel*

The Northeast Corridor stretching between Boston and Washington is the nation's largest generator of travel between cities. As personal and business travel has increased throughout the Northeast Corridor, the pressure to expand the air and rail components of the system has increased. The free flow of people and goods within the corridor is important to the economic well being of the Boston region. People and companies have a range of choices for travel between the major metropolitan areas. The variables that go into the decision making process involve trade offs among time, cost, safety and reliability.

The most popular means of travel along the northeast corridor remains the automobile. The car offers the greatest flexibility, a low marginal cost per

trip, and convenience. But travel by automobile can be time consuming for trips longer than 100 or 150 miles. Other land-based alternatives include private intercity bus and the train. For long distances or time-sensitive travel, the airplane is the mode of choice. Nationwide, approximately 80 percent of intercity miles traveled are by auto, 18 percent by air, and 2 percent for bus and rail.<sup>17</sup>

The terrorist attacks of September 11, 2001 have affected at least two of those variables: time and safety. Added security measures have increased the amount of time needed to navigate within the airport. Airlines have recently suggested that passengers arrive two hours early for domestic flights. The safety procedures at airports have become the focus of a national and regional debate, with reports of travelers carrying weapons walking past security checkpoints at Logan Airport. Massport's executive director resigned and the director of security was reassigned in the aftermath of the security breaches. In the first month after the terrorist attacks, the volume of passengers traveling declined by approximately 30 percent. It is unknown what the longterm effects will be. But the additional time required for a door-to-door trip by air may provide a boost for Amtrak's Acela service within the Northeast.

Beginning in December 2000, Amtrak began service on its new Acela train, the nation's only high-speed passenger train service, between Boston and Washington, D.C. The Acela project included the electrification and upgrading of the tracks from New Haven to Boston and the purchase of new train sets that take advantages of tilt technology advancements that allow the train to travel faster on curves to increase its average speed. By the end of 2001, Amtrak will be providing 10 daily round trips on its new Acela train. In its first six months of operation, Acela carried a total of 130,000 passengers along the Washington to Boston corridor. So far the service has been experiencing growing pains. The on-time performance of the trains have suffered because of delays due to the aging infrastructure between New Haven and Penn Station.

According to Amtrak's acting chairman, Michael Dukakis, Acela offers a convenient alternative to air travel to New York and other cities because of its downtown connections and more spacious and comfortable cars. With speeds reaching a maximum of 150 miles per hour—but averaging only 60 miles an hour door to door—Amtrak hopes to lure business people who are bothered by the persistent delays and cramped trips on airlines.

On the national scene, the U.S. Congress is debating the merits of funding additional high-speed corridors across the United States. In a separate action in 1997, Congress mandated that Amtrak break even on its operations

or face liquidation by the year 2003. There is strong sentiment among the Republican Party that Amtrak should be disbanded and given over to private operators who will operate service with the aid of state funding.

A low-cost alternative to Amtrak is bus. Private carriers such as Greyhound and Peter Pan provide frequent service to other major cities in the Northeast, including New York, Philadelphia, Montreal, and Washington. Throughout most of the day, express or direct bus service is available every 15 minutes between Boston-South Station and New York City. A trip between Boston and New York takes approximately four hours, comparable with regular Amtrak service, but only costs \$35. To provide a centralized location for intercity private bus carriers, the MBTA opened a new bus terminal adjacent to the South Station rail terminal in 1995. The bus terminal serves approximately 12,000 people daily.

While improvements have been made to Amtrak's Northeast Corridor and private carrier buses provide frequent service, the private automobile is still the dominant mode of travel for short-haul trips (less than 400 miles). According to the Eno Foundation, auto trips make up 80 percent of all intercity passenger miles. The automobile provides flexibility, low marginal cost, and direct access to the destination. To improve traffic flow, the Coalition of Northeast States has designed standards for electronic fare collection systems. The Mass Turnpike's electronic toll collection system, FastPass, is interoperable with the other toll facilities within the Northeastern states. Now a traveler is able to pass through toll facilities throughout much of the East Coast without having to stop to pay tolls, thereby reducing travel time and congestion. The FastPass can also be used at the MBTA Route 128 train station to pay for parking.

While the auto is suitable for short distances, travelers who need to get to a destination quickly often choose air travel. In 1999, some 42 million passengers used New England airports to travel. Logan Airport is the dominant airport in New England, carrying 27 million of those passengers. This represents 63 percent of the total number of passengers at New England airports.

But the dynamic of the regional air travel is changing. The introduction of low-cost airlines servicing T.F. Green Airport in Providence and Manchester Airport in New Hampshire has increased the choice for consumers within the Boston region. From 1996 to 1999, there was a 22 percent increase in passenger activity in New England airports overall. During that time, Logan saw an increase of only 8 percent, while both Green and Manchester increased by over 100 percent. In 1999, T.F. Green Airport handled 5.1 million passengers and Manchester handled 2.8 million.

Even with this diversion of passengers to other New England airports, Logan remains congested. In 2000, Logan was ranked the sixth worst airport

in the nation for total delays. The Logan Airside Improvements Final Environment Impact Report (FEIR) stated that Logan Airport experienced approximately 142,000 hours of delay in 1998. Of those, approximately 120,000 were runway-related and 22,000 hours of delay were taxiway-related.<sup>18</sup> The airport currently has five runways. Because aircraft have to take off and land into the wind, the weather plays an important part in the operation of the airport. Logan is especially vulnerable when the wind is out of the northwest. When the weather is favorable, three runways operate at one time with a capacity of 120 flight operations per hour. During periods of northwest winds, the airport is reduced to one or two runways; 90 flights occur hourly with two active runways and 60 flights occur hourly with one active runway.

Massport has responded to bottlenecks in air travel with a number of “airside” improvement proposals—including the construction of a new runway. Massport projects these improvements will result in an annual decrease of 105,000 to 160,000 hours of delay by 2010, depending on the future volume of passenger traffic. Runway 14/32—a 5,000-foot slab of concrete that directs takeoffs and landings over Boston Harbor—is the most contentious strategy. In order to build the runway, Massport will have to have a 25-year old court order rescinded by the judiciary. The three recent Republican Governors—Weld, Cellucci and Swift—have all supported the new runway. The mayors of Boston, Somerville, Cambridge, Everett and Revere all oppose it on the grounds that urban residents will bear the brunt of the noise and pollution from the aircraft. During the Dukakis administration, construction at the Bird Island Flats area of the airport included the building of a Hyatt Hotel that restricted the ability of aircraft to perform takeoffs and landings over land. The Administrator of the Federal Aviation Administration, Jane Garvey, has authority to decide whether Logan will get the new runway; she is a former director of aviation at Massport and Commissioner of Public Works. Critics say that because the runway is short it will have modest impact on delays because commuter jets will not be able to use it.

“Peak period pricing”—which increases the landing fees imposed on carriers during the airport’s busiest times—offers perhaps the most strategic approach to controlling traffic at Logan Airport. By charging more for busy times, peak pricing would give small aircraft incentives for flying less at less congested times. Only 57 percent of all aircraft operations flying in and out of Logan Airport are jets; the rest are general aviation aircraft or small commuter planes. In 1999, there were more flight departures to the Cape and the Islands (12,500) than to any other airport in the country. At one point in 1990, Massport introduced peak pricing at Logan Airport; within months, Logan improved its position from 18th to second nationally in on-time arrivals and departures. But the FAA refused to authorize its continued use

based on a set of technicalities. Three very powerful groups oppose peak period pricing. These include the general aviation community composed of private pilots who usually own their own plane, the commuter air carriers who service smaller communities within New England, and the elected representatives from those small communities.

In June 2001, Massachusetts Environmental Affairs Secretary Robert Durand ordered Massport to use peak pricing or some other demand-control policy to reduce air traffic congestion at Logan Airport.

### *Freight Transportation Systems*

An old adage of the shipping industry is that freight does not vote, so it is rarely paid much attention in debates about economic development or transportation policy. Anne Aylward, former director of the Port of Boston, jokes that most people believe goods arrive on store shelves as “the Immaculate Conception of Cheerios.” The Port of Boston played a major role in the development of Boston. The port was an economic engine providing jobs and creating wealth related to the import and export of raw materials and finished goods. At the beginning of the 21st century, the health of the port is in question and the shipment of goods is a much smaller part of the overall economy of the region.

The Port of Boston is the largest port in New England, handling over 17 metric tons of cargo in 1999.<sup>19</sup> Its major activities include the import of oil and gas products, containerized cargo and other bulk cargo (automobiles, salt, sand and building materials). Petroleum products represent 88 percent of the volume of cargo handled. The major categories of petroleum products include gasoline, home heating oil, and natural gas. In addition the port handled 80,000 automobile imports (mostly Volkswagens) and 158,000 intermodal containers. The port imports far more goods than it exports, with over 90 percent of bulk cargo being imported and only 10 percent exported.

The port's natural features include a deep-water harbor, direct access to the open ocean and a safe harbor from storms. These traits were critical in its rise to prominence during the seventeenth through nineteenth centuries but are less of a competitive advantage in the twenty-first century. The competition faced by Boston from the Port of New York and New Jersey to the south and the Port of Halifax to the north is formidable. The Port of New York and New Jersey serves the largest metropolitan area in the country and is a major intermodal transportation center with all of the major shipping companies calling there. The Port of Halifax has a natural deep water port, direct on-dock double stack rail access and is one shipping day closer to the major ports of Northern Europe.

The growing dominance of the containerized freight system poses the greatest threat to Boston's port. Boston lacks the channel depth and land-side train connections to become a major player in containerized cargo ships. Most freight is now shipped in containers that can be directly transported from a ship onto a tractor-trailer truck or railroad flatbed car for delivery to its final destination. A wide spectrum of goods—clothing, electronics, appliances, building materials, perishable foods—arrive in these containers. Major shipping companies increasingly rely upon larger container ships that call at a fewer number of ports.

Boston is less and less competitive because of the channel depth required to handle the bigger container ships. The newest ships, dubbed post-Panamax because they are too large to fit through the Panama Canal, are capable of carrying over 8,000 container units at a time and require a port water depth of at least 45 feet. Because of their size, these ships are only able to call at a few dozen ports throughout the world. In 2000, Massport completed a major dredging project within the harbor, but this project only brought the main shipping channel and Conley and Moran Terminals to a depth of 40 feet.

The other major constraint is the lack of either on-dock rail service or double-stack capability. For the rail industry the most efficient means to transport containerized cargo is by the use of double-stack rail cars, which hold two containers, one on top of the other. Even one bridge obstacle between the beginning and end of the route is enough to prevent the use of double-stack rail. The preferred national standard for double-stack rail clearance is 22 feet and 6 inches and a minimum of 20 feet and 8 inches. At present, the operation of double-stack rail is not possible east of Worcester on the CSX main line or south of Ayer on the Guilford line because of a series of low clearance bridges along the rail corridors. Because of this, freight that has traveled on double-stack trains across the country have to be broken down and repositioned on single-stack trains before entering the Boston area.

In 1996, Governor William Weld proposed a joint \$200-million capital program to rebuild the bridges along the Conrail main line to bring double-stack capabilities all the way to Beacon Yards in Allston. The proposal was stillborn in part because Boston's port has no strong market potential and in part because it was perceived to assist one mode at the expense of others. The breakup and sale of Conrail to CSX and Norfolk Southern railroads also complicated the policy discussions.

The inability to fully utilize rail for the shipment of goods means that there is a greater reliance on trucks for the movement of goods. Every one of the approximately 158,000 water-borne containers shipped through the Port

of Boston must be transported by truck due to the lack of on-dock rail facilities. The reliance on trucks for cargo puts strain on the highway system—and even some local roads—throughout the metropolitan area.

The freight market within Greater Boston is compact. Approximately 95 percent of all the freight shipped through the Port of Boston has a final destination within 75 miles of the port. By contrast, Halifax, with a deep-water port, has strong rail connections to the whole Midwest market. Because Boston is located between New York and Halifax, the two largest shipping ports on the east coast, shippers do not find Boston an attractive point of entry for goods to be delivered throughout the northern part of the continent. Greater Boston's infrastructure is old and poorly equipped to handle double-stack rail shipments. The region also does not manufacture a high volume of goods for export. Finally, the bulk of the cargo is gasoline and home heating oil destined for consumption within the local market.

Another major issue facing the Boston region is the uncertain future of Beacon Yards, located in Boston's Allston neighborhood, as an intermodal freight facility. The site is operated by CSX, one of the two remaining East Coast major rail companies. In 2000, the Massachusetts Turnpike Authority sold a portion of the land adjacent to Beacon Yards to Harvard University. This land is currently used as a transfer facility for freight moving between the port and Beacon Yards. The conversion of this land from freight handling to university development would further constrain the ability of the Port of Boston or CSX's Beacon Yard Intermodal rail terminal to compete in the future.

One infrequently noted issue in recent discussions of Boston's potential as a port is the Jones Act, which requires all ships used to transport cargo and passengers between U.S. ports to be owned by American citizens, built in American shipyards, and operated by American crews. The Jones Act, passed in 1920, limits the number and kind of ships that can move about American ports and raises prices for shipping. Halifax is free of the restraints of the Jones Act and therefore has more competitive fees for moving goods.

With the terrorist attacks on America on September 11, 2001, security surrounding dangerous materials has become a major issue for transportation in Greater Boston. Mayor Thomas Menino of Boston and other municipal officials sought to block the shipment of 33 million gallons of liquefied natural gas into Boston Harbor. Menino said that the city and state were ill equipped to deal with the catastrophe that would result from a terrorist attack, but Director of Homeland Security Thomas Ridge and U.S. District Court Judge Reginald C. Lindsay refused to halt the shipment.



## Key Transportation Actors in Greater Boston

In what might be understood as a corollary of Thomas P. O'Neill Jr.'s adage that "all politics is local," a Washington, D.C., adage states that there are no Republican or Democratic roadway projects on Capitol Hill. All projects are bipartisan, appreciated on both sides of the aisle regardless of fiscal philosophy. The saying applies to Massachusetts, which sends an all-Democratic delegation to Washington, a city controlled by the Republicans in the executive branch and the House of Representatives.

Over the past five years, the federal government has provided an average of \$750 million annually to Massachusetts for highways and transit. The bulk of this money comes from Federal Highway Administration (FHWA) to support the road and bridge program, which in turn has been used to support the construction of the Central Artery project.

Once the congressional delegation brings home the bacon, transportation infrastructure decisions in the Boston region are dominated by the political world of the State House. Unique among the major industrial states, the city of Boston is both the state capital and the largest city, so the rivalry between the big city and the state capital does not take the same form that it does in New York or Illinois. Boston-area politicians—including governors like Michael Dukakis and William Weld and legislative leaders like Thomas Birmingham and Thomas Finneran—have traditionally dominated the leadership of the state legislature and the governor's office. Just as important, Massachusetts does not have a strong Republican Party presence in the suburbs and rural areas, giving Boston-area voices more sway in leadership and policy debates.

Amtrak, created by Congress in 1971 to operate and maintain a national system of intercity passenger rail in the nation, has been the focus of much controversy in recent years. The quasi-public corporation runs large deficits every year and a national reform council has proposed that it be disbanded or reorganized. Amtrak's operations are supposed to be self-supporting by 2002 but, if it continues in its present form, it will still rely on Congressional authority to issue bonds for its capital needs.

The state legislature exerts its influence through its use of the purse. On average, it passes a Transportation Bond Bills once every two years. These bond bills allow for the long-term capital borrowing needed to construct the major highway and transit projects across the state and region. Within these bills, the legislature is able to earmark money for certain projects and to demonstrate its priorities for which projects should get funded. The leadership of the state Senate and House exert powerful control over what projects

get authorized, using pet projects as chits and rewards in negotiations with other legislative leaders.

The projects the legislature authorizes, however, do not always get the appropriations they need to become reality. The legislature usually approves about five times as much capital spending bills than the state will fund by selling bonds. To protect its bond rating, the Commonwealth has set an annual bonding ceiling of \$1.2 billion for all of its capital needs. The Governor relies on the Executive Office of Administration and Finance (A&F) to determine the appropriate amount of bond money to be made available for the state's competing capital needs. Transportation competes against other capital projects, such as new courthouses, schools, and open spaces. Over the past decade, transportation has received over 50 percent of the money appropriated under the bond cap.

The Governor appoints a cabinet-level Secretary of Transportation and Construction, who presides as Chairman of the MBTA. The Executive Office of Transportation and Construction provides the overall policy guidance to the state agencies and authorities. The Secretary has more direct control over MassHighway and the MBTA and less so over the independent authorities of Massport and MassPike.

While formally independent, the authorities operate under the political influence of the Governor. Recent examples of this were Governor A. Paul Cellucci's public firing of Massport Director Peter Blute in 1999 and Turnpike Chairman James Kerasiotas in 2000, and Governor Jane Swift's reassignment of Massport personnel in the wake of the airplane hijackings from Logan Airport in September 2001. This power is the responsibility of each agency's board of directors but in both cases the boards followed in lock step with the Governor's wishes. The top managers for the transportation agencies are usually drawn from the political world of state government rather than career transportation managers. In recent years the two most public transportation secretaries were Fred Salvucci and Kerasiotis. Salvucci was the prototypical visionary, planner and consensus-builder, while Kerasiotis was the aggressive project administrator.

The independent authorities of the MBTA, Massport and MassTurnpike were created by the legislature to operate a specific portion of the transportation system. Massport and the Massachusetts Turnpike Authority are self-financing and tend to have more independence than the MBTA, which receives subsidies from the state legislature and state revenue sources like the sales tax.

Lesser state transportation actors include the Metropolitan District Commission (MDC) and the Massachusetts Aeronautics Commission

(MAC). The MDC, created in 1893 and now operated under the authority of the Executive Office of Environmental Affairs, owns and operates parkways and bridges in the metropolitan Boston area. Most of these roadways were originally constructed in the 1930 through 1960s. The MDC operates on a small annual appropriations budget. For the past decade it has operated under the constant threat of legislative extinction with its roadway responsibilities being given to the MassHighway Department. The MAC oversees aviation activities for the 27 smaller regional airports across the Commonwealth. Municipal airports in the Boston region are located in Plymouth, Norwood, Stow, Beverly and Norfolk.

At the local level, 101 cities and towns make up the Boston Metropolitan Planning Organization area. Because of a tradition of strong local control over zoning and the absence of regional or even sub-regional cooperation, the cities and towns operate mostly as separate units. This lack of cooperation and the absence of a direct funding source for transportation infrastructure means that the communities are in many cases at the mercy of the state decision makers when it comes to which projects to fund and which to defer.

The Mayor of Boston is able to use his influence in determining policy by virtue of the city's importance to the region. But some decisions such as the construction of a new runway at Logan Airport are being pursued by agencies in spite of the vocal opposition of the Mayor's office. The Boston Redevelopment Authority was created during the heyday of urban renewal to help guide the economic development of the city. While the agency possesses many technical skills, the Mayor exerts great control over the agency through his appointment of board members. Because of members' staggered terms, the board could be a more independent voice when there is turnover in the Office of the Mayor. The BRA's transportation planning is limited to specific projects. The Boston Transportation Department is responsible for citywide transportation planning.

The federal government provides funding and oversight to the state but does not play an active ongoing role in the day-to-day decision making process for which projects should be built. In response to concerns about the total cost of the Central Artery project and at the request of Congress, FHWA imposed a cap of \$8.55 billion of federal funds that could be used for the project. The rest will have to come from the state in direct appropriations and a mix of tolls and user fees. But in some ways this is a meaningless cap since there is no line item allocation of federal highway money for the Central Artery project.

The region's major transportation decisions are made by public processes, but many times are in response to public interest and private sector pressures.

The environmental lobby has been an active participant in forcing state commitments in association with major construction projects. Public activism has played a large role in the decision-making process since the protests against Logan Airport by East Boston residents in the 1960s and the anti-highway activists protesting the construction of the Inner Belt and associated interstates in the 1970s. In 1997, the U.S. Department of Transportation issued orders requiring the evaluation of “environmental justice” in the transportation decision-making process. The proposed expansion of Logan Airport and the construction of the Greenbush Commuter Rail Line have both met with outspoken public opponents that have forced years of environmental review and comment. The motives of these movements tend to be mixed—not only concern for the environment, but also the standard NIMBY pressures in communities that oppose any new investment or development.

Greater Boston does not have a broad public-interest lobbying group for transportation issues like New York’s Straphangers organization. But a number of organizations play a powerful role in public processes and legal action. The Conservation Law Foundation (CLF) has played an instrumental part in securing “mitigation” benefits for public transportation as part of the Central Artery project. The CLF also has been one of the major forces pressing for smart growth in the region. The CLF has produced a number of how-to kits to promote the development of transit-oriented development. Alternatives for Community and Environment has pushed for better transit service in the inner city as part of its campaign for environmental justice. Most activism, however, has been episodic. A small band of trolley supporters has pushed for restoration of service along the Green Line’s E trunk in Boston’s Jamaica Plain neighborhood from Heath Street to Forest Hills. Another group has worked with the Metropolitan District Commission to control the traffic along the Arborway in Jamaica Plain. A coalition of neighborhood groups has lobbied to control bus activity near Boston’s North End, where tour buses often idle while tourists visit historic sites.

In 2000, a private company began an experiment in Greater Boston that could alter behavior among residents and workers in select neighborhoods. Zipcar, a for-profit company, offers short-term car rentals to people who use the car sparingly but wish access to cars for emergencies, shopping, and special occasions. If it catches on—and early indications are that it has in Boston, Brookline, and Cambridge—the concept of car-sharing could cause some households to either sell their car or cut back from two cars to one. Developers around the region have expressed interest in integrating Zipcar spaces into their designs. If urban centers are designed to accommodate car-sharing, the congestion in neighborhoods like Jamaica Plain could

be reoriented to emphasize public transit once again. Where the “tipping point” for car-sharing lies, no one knows, but it is too limited to have any major effect on transportation options even at the neighborhood level.

### **Major Policy Options for the Region**

For the better part of a generation, the Central Artery has been the subject of major debates about the future of transportation in the region. Since it was constructed, the elevated highway has produced massive traffic congestion, damaged Boston’s urban fabric, and eventually produced the lengthy and expensive Big Dig project. But within five years, the Central Artery will be gone and the region will have the opportunity to think anew about its options for transportation policy.

The Big Dig has consumed 71 percent of all federal highway funding for the state over the past decade and has also consumed a large portion of the state’s bonding cap. But now that the Central Artery is nearing completion, it is a good time for the region to debate where the focus for transportation infrastructure should turn. A major policy debate for the Boston region is how much mobility to provide for people and businesses, and at what cost. Congestion continues to grow on the roads, in the subways and at the airports. How should the region respond with its investment decisions?

During the past decade there has been precious little federal or state money for the regular maintenance of the existing roadway system. For fiscal year 2002, the Boston MPO programmed \$1.41 billion in federal and state money for the Central Artery and \$115.7 million for the rest of the road and bridge program for the region.<sup>20</sup> Because of the large amounts of capital resources applied to the Central Artery, the region will now need to focus on how much money should the state put towards maintenance and how much to expansion projects.

Future roadway improvements or expansions probably will be at the margins or restoring facilities to a state of good repair. Because of the financial and environmental costs, it will be extremely difficult to construct new additions to the roadway system. Many individual communities are grappling with this as roadway improvement projects come under design. The main problem comes from the fact that there are numerous competing interests at play. The national highway association, AASHTO, sets standards with safety and speed as its top priorities. But these standards are often at odds with the reality of the types of roads built a century ago that dominate the New England landscape. According to AASHTO the safest road is one that has 12-foot travel lanes, a five-foot bicycle corridor, sidewalks, and no curves in the layout. There are not many roads in the Boston region that

meet this standard. In response to concerns from local communities, MassHighway has recently instituted a task force of state and local officials to explore this issue and provide better guidance. That task force's work bears watching.

The state will continue to wrestle with the appropriate goals and standards to follow in modernizing its highway system. If safety is the primary factor and national standards are followed then roadways will be widened to allow for wider travel lanes, shoulders and space for bicycle paths and sidewalks. But an ever-expanding roadway means encroachment onto those qualities that make the Boston area special. Trees will be cut down, winding roads may be straightened and the sense of space and balance as one travels through an historic town center may be thrown off.

Congestion is another difficult subject for debate. Activists and leaders in some communities, like Cambridge, do not think that slow-moving traffic is necessarily a bad thing. The Cambridge Department of Community Development has established a formal goal of slowing traffic along its streets. The city employs a number of measures to "calm" traffic, including reducing the number of travel lanes, installing textured surfaces and bulb-like sidewalks, and reducing speed limits. Cambridge also sought to ban all trucks driving through the city during the night-time hours.

Cambridge's traffic activism poses the classic dilemma for a state composed of small, independent-minded communities. When one community adopts strong measures to direct traffic outside its neighborhoods, nearby cities and towns often suffer the consequences. When Cambridge instituted its night-time truck ban, the communities of Somerville and Arlington were ready to go to court to overturn the ban. Only the intervention of Attorney General Thomas Reilly prevented legal action. One way to deal with congestion is to better manage the existing assets of the transportation network. In the case of the roads, this could mean using highway money to pay for park-and-ride lots, or implement intelligent transportation strategies to give the public more information so that they can make alternative decisions, or implementing services that can respond to and clear accidents quickly. Should the state and the region make a larger commitment to non-traditional measures with increased funding? Should it do this at the expense of routine maintenance and repair? Recent Massachusetts examples include the introduction of the reversible HOV lane on the Southeast Expressway and the implementation of the FastPass system on the Turnpike.

Another strategy to relieve roadway congestion is to reduce the number of automobile trips by shifting people onto transit. In the high employment centers of downtown Boston the transit and walk percentage of all trips is over 60 percent. But even with the billions of dollars spent over the past two

decades to upgrade and expand the transit network, only 6 percent of all the trips in the region are made by transit.<sup>21</sup>

The policy choices dealing with transit may be even more difficult than those involving the roadways. The question about the proper provision of transit service for the urban versus suburban resident exists with each decision to fund certain projects and defer others. At least all the suburban communities have roads and access to the highway network. The reach of transit grows more limited in scope the farther one travels from Boston. It is expected that the 2000 U.S. Census will show an increasing number of minority and low-income families in the suburbs. Workers and families living in the suburbs without cars suffer a severe estrangement from the region's economic and social opportunities.

Because the operating and capital funding of the MBTA has historically been subject to legislative approval, it has always been important for the MBTA to preserve its coalition of urban and suburban users by providing new projects or expanded service to both constituencies. The state legislature has traditionally been dominated by representatives from Greater Boston who have fought for Boston-area projects. In the past the legislature made sure that the suburban residents got their commuter rail extensions while the majority of the money continued to be expended on the urban core. Now that the legislature has given the MBTA its own funding source and its own budget power, it will be interesting to see how much influence the legislature continues to exert. Dennis DeZoglio, Director of Planning for the MBTA, noted that it took the legislature only 29 days after the institution of forward funding before it directed the MBTA to perform work on the Ashmont Red Line stations.

This struggle between cities and suburbs extends to the commuter rail division. One dilemma concerns the relative merits of extending commuter rail service to the South Shore or Fall River/New Bedford as opposed to building additional commuter rail stops within the urban core. As Somerville works to redevelop the Assembly Square area, improved transit connections have emerged as a key to the success of the redevelopment. A new commuter rail stop and Orange Line station at Assembly Square could bring shoppers to the area without worsening the congestion of the area. Residents of the Mattapan area of Boston wonder why the Readville commuter rail line passes through their neighborhoods but provides inadequate service for the residents. This line provides service from the southwest to South Station but its schedule is geared for commuters and carries almost no local, urban traffic.

An MBTA Blue Ribbon Panel appointed by former Governor A. Paul Cellucci recommended allocating 70 percent of the capital program to maintenance of the existing system. The Boston Metropolitan Planning

Organization (MPO) estimated that the MBTA will have approximately \$8 billion for the capital program over the next twenty-five years.<sup>22</sup> This figure does not include any specially designated Federal Transit Administration (FTA) money dedicated to new transit service. This federal money, “New Starts,” funds about 50 percent of new transit programs—but the Massachusetts share of this money is uncertain, since the Commonwealth must compete with other states and there is a long queue of projects under consideration. Working within these constraints, the T would have approximately \$2.5 billion to spend on new projects, after reserving money for the maintenance of the system. It is crucial that the MBTA use this money wisely even if it means rethinking previous transit expansion commitments.

The state already has committed to construct a number of new transit facilities during this period to meet its legal environmental commitments under the Central Artery project. These include the Greenbush commuter rail line, reinstatement of the Arborway Green Line service, extension of the Green Line to Medford Hillside and a Blue/Red Lines connector. These projects in conjunction with the three Silver Line projects would use all of the available MBTA capital until the year 2016. Because of this the state and region should reexamine these 10-year-old environmental commitments. The Greenbush line has faced vocal local opposition from those residents opposed to the reinstatement of train service. The latest plan for the Greenbush line would cost at least \$410 million while serving approximately 3,200 riders per day. Of those 3,200 only 1,700 would be new transit riders.<sup>23</sup> The remaining would be people who transferred from one of the other Old Colony lines, the ferry boat or the Red Line. The costs for the line have escalated as the communities involved, most notably Hingham and Weymouth, have extracted concessions from the MBTA. It might be time to recognize that the result is not worth the cost.

The Blue/Red connector would provide a connection from Bowdoin Station, near Government Center, to Charles Street Station and would provide a direct connection between these two transit lines. The main objective of the \$220-million project, creating a one-seat transfer from the Red Line to Logan Airport, is being achieved by the Silver Line extension to the airport. While it might be desirable to link the Blue and Red Lines, it might make more sense from a policy standpoint to invest money in improvements to the urban bus system instead.

Most experts and activists consider restoration of the Green Line’s E trunk to be all but impossible. EOTC has already submitted a request to EOEA to provide enhanced bus service along the Arborway line instead of Green Line service. Tracks along South Huntington Avenue have been paved



over. Businesses along the Centre Street portion of the line in Jamaica Plain, concerned about traffic congestion and a loss of parking spaces for businesses, have objected vigorously to the trolley restoration. In November 2001, the Massachusetts Executive Office of Environmental Affairs ruled that Arborway line restoration is feasible and that the Executive Office of Transportation and Construction must restore the service.

In 1996, Governor Weld pledged that the MBTA would not purchase any additional diesel fuel buses for its service fleet in response to environmental concerns about the health effects of diesel buses. Since that time the MBTA has been exploring alternative fuel vehicles and has recently placed an order for 100 CNG 40-foot buses. The new CNG buses will require the construction of a new set of infrastructure and cost \$400,000 each. This is a \$100,000 premium over a new 40-foot diesel bus. It is possible that the MBTA will not be able to replace its aging fleet of 1,000 buses as quickly as it would have if it purchased clean-fuel diesel buses. This policy decision may add as much as \$100 million to the cost of replacing the entire fleet. This does not include the tens of millions of dollars in infrastructure costs involved in upgrading every bus facility to handle alternative fuels.

Two large capital projects that have not been allocated capital funds are the North-South Rail Link and the Urban Ring. In many ways these two projects are in competition with each other. Each could cost over \$1 billion, much of it in federal money. But both would provide a number of similar benefits—relieving the problem of excess ridership at certain key points of the subway system and providing a better distribution of riders.

At the same time, the communities of Fall River and New Bedford are strongly lobbying for the extension of commuter rail service to their communities. The political leadership from Southeastern Massachusetts see it as an economic issue. A direct connection between their cities and Boston would help provide the stimulus for additional jobs and housing to a region that has suffered an economic decline with the loss of the manufacturing and fishing industries over the past three decades. They also argue that it is the last remaining segment of Eastern Massachusetts without commuter rail.

While the MBTA faces demands from a number of communities and interest groups for expanded service, it lacks the capital capacity to meet those demands. Massport, on the other hand, has the capital capacity to expand at Logan or Hanscom Airports but has vocal opponents for expansion.

Recent years have seen the institution of high-speed rail to New York City and beyond and the emergence of regional airports in Rhode Island and New Hampshire with low cost carriers providing national service. But these

actions have not decreased the demand for air travel at Logan, but merely slowed the increase in demand. Massport argues that Logan is an economic engine for the Boston region and it must add an additional runway along with other operational improvements to properly serve the region's needs.

Boston's Mayor Thomas M. Menino and Congressman Michael Capuano, among others, have voiced opposition to any expansion plans and believe that the environmental quality of the urban neighborhoods should trump the needs of air travel. This battle over airport expansion is not isolated to Boston. Chicago, San Francisco and New York City are all in the process of trying to expand airport runway capacity. All of the proposals have met opposition from surrounding communities.

Over 20 percent of all the flights from Logan are bound for the New York/Washington corridor. It is expected that over the coming years, Amtrak's Acela service will be able divert a portion of this demand from the air to rail. But at the same time Congress has demanded that Amtrak begin operational sufficiency by 2003. Amtrak is depending upon the Acela to provide enough revenue to help it achieve profitability but it will still depend upon Congress for its capital needs during a time when federal dollars are harder to come by and political support for Amtrak is lukewarm at best. The recent terrorist attacks in New York and Washington using airplanes might very well spur Congress to increase its support of a national rail system.

Experts and political figures agree that Massachusetts and other north-eastern states need to develop a regional strategy for improving intercity travel options. The state's three recent Republican governors, most recently Jane M. Swift, have been strong proponents of the Logan expansion but were blocked by the late Congressman J. Joseph Moakley of South Boston and other opponents. The MBTA has initiated discussions with the state of Rhode Island to extend the commuter rail to T.F. Green Airport outside Providence. Massport also is exploring the options of providing bus service from its Logan Express Centers to the other regional airports. Massport's fiscal capacity has been in question since the 2001 terrorist attacks in the U.S. and it is unclear whether the authority will be able to fund major new initiatives such as regional airport linkages.

Massport has not pursued a peak-period pricing approach at Logan Airport since the waning days of the Dukakis Administration. The brief experimentation with this concept, which used a cost allocation strategy, was overturned by the FAA. The Weld Administration, under pressure from small plane operators from Cape Cod and New Hampshire, did not seek to address the legal issues to make the strategy legally viable. Peak-pricing would provide financial incentives to shift air travel to non-peak hours and other air-

ports. Small aircraft made a total of 38,000 flights in and out of Logan in 2000, about 8 percent of all aircraft operations. These flights averaged 3.2 passengers per plane versus 55 for commercial flights.<sup>24</sup>

Most transportation policy debate focuses on the challenge of transporting people to jobs, school, recreation, and other destinations. But freight transportation poses several pressing issues. As the cost of shipping goods increases due to an inefficient transportation network, that cost gets passed onto the consumer and makes the Boston region a more expensive place to live. It also drives importers and exporters away from Boston's ports.

The Mass Turnpike's decision to sell its land adjacent to Beacon Yards to Harvard University evoked little opposition. But that act may foreshadow the end of Beacon Yards as an intermodal freight terminal and decrease the ability of the Port of Boston to compete as a viable freight port. Transportation policymakers often state their desire to increase the volume of freight shipped by rail, but that requires a viable intermodal terminal and the infrastructure to handle the distribution of the freight. A \$200-million bond bill, which would share the cost of upgrading freight lines in Massachusetts, languished in 1996 with the sale of Conrail. The issue has not been championed since then.

Few people love trucks driving down their street, but many love the fact that UPS will deliver a package to their door from across the country overnight. In response to a Cambridge night-time truck ban, the Metropolitan Area Planning Council oversaw a regional truck study, which offered recommendations for improving truck movements while reducing the impacts upon neighborhoods. Several of the recommendations were rejected by the operating agencies because it meant changing the character of certain of its roads. One of the recommendations was to allow limited truck access along a stretch of Alewife Brook Parkway from Massachusetts Avenue to Broadway in Somerville. The MDC, who operates this road, has strenuously objected. The town of Arlington rejected the proposal to include Broadway as part of the regional truck network.

The Boston area is almost totally dependent upon the Port of Boston for its supply of oil. But the main oil terminals along the Chelsea Creek and Mystic River pose navigational constraints on modern oil tankers. Many of these tankers must transfer oil to barges in the harbor in order to reach its final destination, which adds to delivery costs and, ultimately, the cost of the product. These oil terminal facilities are inadequate and should probably be replaced, but finding new sites could prove impossible. Such facilities must be located on the waterfront, but they pose environmental hazards that no community would welcome.

Even if there could be an agreement on the list of infrastructure improvements necessary there is the question of whether the region can afford to pay for it.

### **Toward a New Vision for Regional Transportation**

Transportation poses perhaps the most difficult set of issues for regional planning and development. The parameters of growth are set by the region's network of roads, bridges and tunnels, transit and commuter rail lines, bus routes, and air and water ports. But while it is true that major transportation projects like Boston's old streetcars, interstate highways, and airports can drive development—"If you build it, they will come"—it is not always the case that the transportation networks determine where people live and work.

At a recent discussion of transportation issues at the John F. Kennedy School of Government, many experts and activists agreed that Greater Boston needs a comprehensive study of all aspects of the transportation system. Not since Governor Francis Sargent's Boston Transportation Planning Review in the early 1970s has such an analysis been conducted. But several participants urged caution. The Sargent-era study was necessary because of a major political crisis, when community activists were protesting plans for a major new highway. Replicating that sense of urgency might be impossible. Even if that urgency existed, it would also require bold leadership and a willingness to accept conclusions that might be contrary to established political agendas.

In the absence of a crisis and a comprehensive planning process, Massachusetts and Greater Boston can do much to confront difficult transportation challenges. The state already possesses powerful planning tools, like powerful authorities and strategic legislative statutes. The challenge—from the governor to local planning officials to private developers—is to marshal those tools to balance the economic and social needs. That could happen with or without a comprehensive plan.

## 5. *More than Shelter: Housing the People of Greater Boston*

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*Gretchen Weismann*

**I**N THE SPRING OF 2001, Massachusetts legislators filed more than 30 bills to change one of the most powerful affordable housing laws on the books. The law, known as Chapter 40B, is designed to insure that every Massachusetts community offers at least 10 percent of its housing stock at rates affordable to poor and working class families. By allowing large-scale developers to bypass local zoning restrictions, 40B puts many communities on the defensive. The law has prompted bitter debates about the best strategies to insure that people of all income levels can afford a place to live without sacrificing the basic necessities of life.

The opposition to 40B came primarily from the suburbs—traditional older towns, beatific rural communities, fast-growing settlements along the region’s major high-technology corridors, and commuter-accessible coastal towns. Much of the opposition came in Greater Boston’s high-growth areas along Interstate 495 and Route 128. As population, jobs, retail, and other activities moved west, communities impacted by the growth struggled to keep development under control. Some activists opposed to 40B argued that they were not simply against affordable housing, but development of any kind. As zealous developers used 40B to build larger, denser developments, many cities and towns felt helpless in their efforts to control the character of their communities.

The law establishes a simple goal: 10 percent of all housing in cities and towns should be “affordable,” that is, priced at no more than 30 percent of household income for families earning less than 80 percent of the area median income. The law establishes a comprehensive permitting process that allows developers of multi-family housing to override local zoning requirements if their developments pose no threat to community health and safety. A State Housing Appeals Committee may override local zoning standards if 25 percent of the units in a proposed development are designated affordable

for 15 years. In more than 148 rulings, the State Housing Appeals Committee supported developers.

Supporters of Chapter 40B argue that the law provides badly needed affordable housing. Since its passage in 1969, 40B has spurred the development of more than 25,000 units of housing. Yet, as of 2001, only 23 of the state's 351 cities and towns have met the 10-percent criteria for which the law was designed.

Chapter 40B's critics say that because so few municipalities have met the law's requirement, the regulation has been ineffective and unrealistic. Planning boards and residents say that new housing and residents can strain municipal budgets and physical infrastructure, damage the community's character and quality of life, and threaten property values. Critics see 40B as an unfunded mandate and a poor planning tool. With 40B at their disposal, developers can force any development project past town meeting, no matter how dense the building or how out of character with the existing landscape. The state's tradition of local control drives the anti-40B movement.

Governor Jane M. Swift has approved several changes to Chapter 40B. Swift's reforms allow zoning boards of appeals to refuse comprehensive permits for large-scale projects when the size of the development is inappropriate to the community; let zoning boards of appeal deny comprehensive permits for one year when a community has demonstrated "good faith" toward creating affordable housing; and require developers to wait one year after using 40B to obtain other zoning approvals. These changes support 40B's goals while discouraging developers from taking advantage of their position in a particular community. Another revision, which counts private housing serving mentally ill or retarded residents as affordable, could ultimately reduce the number of affordable units needed in cities and towns. In addition, the Governor's Special Commission on Barriers to Housing has been developing strategies to address regulatory issues including zoning, permitting, building codes, and septic system codes.

Twenty-three cities and towns in Massachusetts have met the state's mandate for 10 percent affordable housing, including Amherst (10.42 percent), Beverly (10.33), Boston (19.63), Brockton (12.24), Cambridge (15.6), Chelsea (17.03), Fall River (10.56), Framingham (10.03), Gardner (15), Lawrence (14.96), Lowell (13.49), Lynn (12.73), Malden (12.20), Middlefield (14.85), New Bedford (11.33), Revere (10.07), Salem (12.5), Springfield (17.83), and Worcester (13.29). The communities with the lowest percentage of affordable housing units include Belmont (2.64), Concord (2.9), Carlisle (1.09), Dedham (3.89), Hopkinton (2.7), Needham (3.73), Norwell (2.99), and Walpole (1.68). Communities that are close to reaching the 10-percent

standard include Braintree (7.97), Everett (8.18), Haverhill (8.28), Lincoln (8.43), Newburyport (8.63), Quincy (8.59), and Somerville (8.58).<sup>1</sup>

Many cities have embraced the housing challenge with specific goals of their own. Mayor Thomas M. Menino of Boston established a production goal of 2,500 units and promised the fast disposition of 1,000 city-owned lots to expedite the construction of new and rehabilitated housing opportunities. The City of Cambridge has amassed more than \$3 million for an affordable housing trust fund through a local linkage program the city hopes to expand. The cities of Malden, Medford, and Everett increased their production levels by more than 100 percent over the last year, in part because of housing prices in the area that increased by 63 percent in five years. On Cape Cod 15 cities have banded together to promote regional development, securing over \$6.5 million from the federal government for affordable housing. Westport, a small fishing town with quaint cottages and expensive summer homes, is directing growth downtown where greater density can reinforce the town's village atmosphere.

### **The Double Whammy of High Prices and Low Supply**

Greater Boston's housing market is unusual in the United States for two reasons, both tied to the region's unusual economic and political environment.

First, the price of housing at all levels is considerably higher than in all but a few metropolitan regions. In 1996, some 340,000 renters in the state were considered "shelter poor," meaning that after paying for housing, they cannot afford to pay for the other necessities of life.<sup>2</sup> From 1998 to 2000, rents in the region rose more than 10 percent annually, compared with a rate of 4.3 percent nationally.<sup>3</sup> The average price of a new home in Massachusetts in 2000, was \$236,000, 48 percent higher than the national average of \$159,000.<sup>4</sup>

The high prices stem from the region's growing but uneven affluence, as well as some idiosyncrasies of the region. As Denise diPasquale and her colleagues have shown, high housing prices in Greater Boston are supported by the rising incomes enjoyed by the better-off members of the region.<sup>5</sup> Once prices reach new heights in one community, people of means move into new communities and bid up prices there. In effect, the growing prosperity of more affluent households puts housing prices out of reach for less affluent households. At the same time, the region's 250,000 college and university students push up prices in other sections of the city, since students are more willing to pack large numbers of tenants into existing units and pay rents that exceed working families' ability to pay.

Second, despite high and rising housing prices, the private market has not responded with sufficient production to meet demand. Edward

Moscovich, a real-estate expert, states simply: “Most other states have found a way to build new housing in response to demand, while Massachusetts and its neighbors have not.” A study by the real-estate firm *Lend Lease* found that Boston was the fourth most “restrained” of 25 markets, meaning that the production of new housing units was low relative to the overall needed supply of housing in the region. Massachusetts built 15 units per thousand residents, dramatically less than the 28 units per thousand in the rest of the nation.<sup>6</sup>

Experts disagree on the reasons for this lack of adequate new production. Some blame reduction in federal and state funding for affordable housing. Funding has been shifted toward vouchers for individuals and “preservation” of existing affordable housing rather than the subsidization of new construction. Others say the reason is costly and time-consuming regulations at the state and local levels that make building new housing difficult for all but the biggest and most well-heeled developers. According to some of these experts, unnecessary regulations add one-third or more to the total cost of building housing. Liberals and conservatives alike agree that NIMBYism (Not In My Back Yard) stalls the development of housing in cities and towns across the region.

The impact of the housing crisis is undeniable, and has taken on a greater urgency as business leaders have expressed fears about its impact on other industries. Even universities worry about the high cost of housing in the Greater Boston region. Massachusetts Institute of Technology President Charles Vest and other university and hospital leaders have ranked housing as their top barrier to recruitment. Recent surveys conducted by companies facing significant labor shortages indicate that these shortages are more pronounced when companies are located in areas with higher housing costs.

### **Dimensions of the Price Crisis**

The exploding price of housing is the most dramatic indication that housing policy in Massachusetts and Greater Boston is not working. Under classic market assumptions, when housing prices increase, the supply of new or rehabilitated housing would increase as a response—and prices would moderate over time. But such moderation of prices has not occurred.

One way to understand housing affordability might be to look at the ratio of housing prices to household incomes. In 1980, this index stood at 1.99 for Massachusetts households, meaning that the typical home value was roughly twice as high as median income. This ratio more than doubled by 1990, to 4.41, before settling to a still-high level of 3.89 in 2000. By contrast the ratio in the United States was 2.22 in 1980, 2.63 in 1990, and 2.91 in



2000. Nationally, states with a low ratio included Kansas and Ohio (2.10), while the only states with even higher ratios than Massachusetts were California (4.65) and Hawaii (5.65).<sup>7</sup>

In the Boston Primary Metropolitan Statistical Area (PMSA), rents increased by 25.7 percent between 1995 and 2000. Neighborhoods throughout the city of Boston continue to witness dramatic increases in rent, even month to month. Median monthly rents for a two-bedroom apartment in Roxbury rose 41 percent during the third quarter of 1999, and by 38 percent between 1999 and 2000. The story is much the same for suburban cities and towns. Rents in the inner suburbs surrounding Boston increased an average of 28 percent between 1993 and 1997. Housing costs have become so unmanageable on Cape Cod that many summer workers have been forced to live in temporary campgrounds to work on the Cape.<sup>8</sup>

### *Dimensions of the Supply Crisis*

Optimal vacancy rates—the point at which there is enough supply to meet demand—are estimated at 2 percent for owner-occupied housing and 6 percent for rental housing. One-third of the 101 cities and towns in the Metropolitan Area Planning Council's region had rental vacancy rates below 2 percent in 2000. The town of Boxborough's vacancy rental rate fell from 15.9 percent in 1990 to 4.6 percent in 2000. In 2000 only a handful of towns had vacancy rates greater than 1 percent for owner-occupied housing. The region simply does not have enough housing units to meet the demand for moderately priced apartments and homes.<sup>9</sup>

To make matters worse, across the region, subsidized and other affordable rental units are disappearing. Two- to four-unit buildings have been converted into condominiums that fetch prices comparable to single-family homes. Meanwhile, private owners of affordable housing units—in which owners accepted federal subsidies in exchange for an agreement to charge lower rents—have terminated their agreements with HUD. With 27,400 of these units at risk, Massachusetts has one of the largest “expiring use” portfolios in the country. As of 2000, more than 2,665 units in Greater Boston had been removed from the rolls of affordable housing as owners convert affordable units to market-rate housing. Another 10,000 units are considered at-risk through the year 2005.<sup>10</sup>

The loss of subsidized units has a devastating effect on low-income families displaced from their homes and communities. With waiting lists of up to ten years for nearly all the region's 200,000 subsidized units, these households often find themselves living with friends and relatives—or, in the worst-case scenario, living in shelters or on the street.

Part of the supply problem stems from the dramatic shift of home-building from multi-unit buildings to single-family homes. Between 1990 and 1997, single-family homes comprised nearly 87 percent of all new housing permits, with the majority of new construction occurring near the Interstate 495 corridor. Permits for multi-family housing in Greater Boston increased by only 2 percent in 1999, though, and multi-family construction was non-existent in all but 22 of 157 communities in the metropolitan statistical area. Communities that permit multifamily housing include Boston, Cambridge, Braintree, Arlington, Gloucester, Malden, and Newton. Affluent communities along Route 128 and newer bedroom communities further out—including Wellesley, Hopkinton, Framingham, Dedham, Concord, and Burlington—have restricted multi-family construction. The result is a dramatic fall in multi-family construction. Statewide, multi-family construction fell from 26 percent in the 1980s to 12 percent of all new construction today. Not surprisingly, the number of advertised apartments in Boston declined by 43 percent between 1998 and 1999.

One of the most difficult challenges facing housing policymakers and developers is the declining size of the household. Seventy-five percent of all households earning below 80 percent of the area median income consist of one- or two-person households. However, the region's booming economy has spurred developers to seek the high-profit larger homes rather than building smaller homes and apartment buildings. At a time when smaller homes would be smart public policy, the size of homes is actually increasing dramatically—increasing the per-person cost of units even more.<sup>11</sup> U.S. Census data show that the average size of a new single-family house sold in 1999 was almost ten percent larger than a decade earlier.<sup>12</sup> New multifamily units have increased in size from a median of 887 square feet in 1971 to 1,160 square feet in 2000. Some 37 percent of all new multifamily units in 1971 had one bedroom, but only 30 percent have a single bedroom in 2000. Eighteen percent now have 3 or more bedrooms in comparison to just 13 percent of the apartments built in 1971. Fifty-five percent of today's multi-family units also have two or more bathrooms; in 1980, just 30 percent had an extra bathroom.

### **Elements of Housing Policy**

Housing is entwined with a wide range of other concerns. Housing is more than shelter; it is also a key component of people's life opportunities, from education to employment to recreation and community life. Michael Stone, a housing expert at the University of Massachusetts at Boston, notes that the controversies over housing can be attributed to

conflicts between multiple goals: government participation v. independent private enterprise; program goals v. budget goals; production goals v. consumer protection; production goals v. equal opportunity goals; production goals v. environmental quality goals; production goals v. stabilizing wages for construction labor; public and political acceptance v. efficiency and cost savings.<sup>13</sup>

Housing is, in short, not one issue, but rather a whole collection of issues.

Since the New Deal, the federal government has taken responsibility for providing subsidies for housing low-income households, while at the same time providing tax incentives for middle-class and affluent families to buy their own homes. The state government has implemented a wide variety of federal programs, acting as the pass-through entity for federal funds to the local agencies and private developers. The state government often supplements federal money with its own programs. Localities generally do not invest heavily in housing production, but major cities like Boston and Cambridge have adopted rent control statutes (repealed in a statewide referendum in 1994), provided homeless shelters, and established special housing funds.

Despite the importance of public investment in housing, the more important policies are regulatory. The federal government has adopted several statutes to enforce civil rights. State governments have adopted standards for building and also set the parameters of local zoning codes. Localities enforce state building codes and write and enforce zoning codes.

### *Land*

Greater Boston is often called one of the densest regions in the nation, with few parcels of land available for housing and other kinds of development. In fact, the region holds literally thousands of parcels of land that might offer buildable space for housing. Developers state categorically that the region has plenty of land for housing development, without further gobbling precious farms, marshes, and other environmental spaces. One developer put the matter this way: “There is plenty of land. Land is not an issue. The Boston Society of Architects and others have been talking for years about building on top of retail. The bottom line is that if you want housing, you have to make getting land easy. It’s there, it’s just not easy to get.”<sup>14</sup>

The Commonwealth and its cities and towns have no comprehensive policy for the disposition of surplus properties. As a result, land disposition occurs on an ad-hoc basis. Disposing of properties of all kinds—vacant lots, agency- and authority-owner properties, brownfields, abandoned and condemned properties—occurs on a case-by-case basis.

Exacerbating the problem of supply and disposition is the tendency of localities to increase the minimum sizes of lots allowed for housing. Many cities and towns in the region have increased minimum lot sizes to 7,000 square feet per new single-family home. Suburban communities tend to require the largest lot sizes.

If land availability is not directly a problem, then the cost of land is prohibitive in many parts of the region. The cost of land comprises about one-third of the total development costs for housing. In a middle class neighborhood of Framingham, unimproved land can cost as little as \$4.75 a square foot, with residential land zoned at a minimum of 8,000 square feet per lot. In Concord, land is priced between \$10 and \$12.50 a square foot, with most lot sizes averaging nearly an acre. In Quincy, land costs average \$15 to \$20 a square foot, with minimum lot sizes of 7,650 square feet. In Boston's neighborhoods, historically less expensive areas now command high land prices; lots have sold for \$30 a square foot in Hyde Park, \$32 a square foot in Dorchester, and \$20 a square foot in Jamaica Plain.<sup>15</sup>

Booming housing prices fuel speculation in land, in which landowners hold out for ever-higher prices. Speculation removes some land from the marketplace, increasing the cost of the land and reducing the supply available for development. Even in less affluent communities, landholders do not develop their property in the hopes that they can sell it at high profits to a developer. Because landowners pay property taxes according to the present value of the land—rather than its potential value if developed—the cost of maintaining unused land is minimal for people of means.

Real-estate speculation is likely to occur whenever and wherever landowners are convinced that the value of their property is likely to increase over the next several years. In the last generation, Greater Boston has experienced two major real-estate booms, with a period of bust in between. A number of Greater Boston areas—from exclusive core urban neighborhoods and shoreline communities to traditionally less-desirable communities like South Boston, East Boston, Dorchester, and Revere, to name just a few—have experienced major periods of underdevelopment followed by major periods of development.

Speculation is also likely to occur when major public investments in infrastructure and other improvements are likely to improve the value of the land over time. The South Boston Waterfront has received billions of dollars in investment in the last decade and property has increased in value as a consequence—and yet development has often occurred at a snail's pace because property owners angle for a bigger payoff, waiting and setting high terms for development projects.

Assembling lots for housing development can require costly legal, social, and political negotiation. Harvard University evoked the ire of community groups in 1998 when it had announced that it had acquired 52 acres of land over the previous ten years by secretly buying properties through a dummy corporation. But Harvard officials reasoned that using a secretive process for acquiring land was essential because property owners, cognizant of the university's deep pockets, would have charged astronomical prices. Other developers face the same problem, even if they lack the high profile and resources of Harvard.

The effort of a coalition of 95 churches and synagogues in the Greater Boston area provides an illustration. The Greater Boston Interfaith Organization (GBIO) has raised \$5 million dollars from member churches and synagogues to construct three-story townhouses with homeownership and rental units. The GBIO, which plans to market its new housing to families earning \$30,000 to \$50,000, is negotiating with the state and several municipalities to identify land suitable for affordable housing. But the search for land has proved difficult. When the organization sought to gain control of some land at the site of the old Boston State Hospital in Boston's Mattapan neighborhood, it stepped into a long-running quagmire over how that property should be developed.

In urban areas, environmental contamination poses one of the major impediments to productive land use. So-called brownfield sites are expensive to clean, adding as much as \$25,000 to the per-unit cost of development. In the cities of Boston and Cambridge, infill lots are often the only sites available for housing development. These parcels are often ideal for multifamily homes, but the costs of land assembly can be prohibitive and a piecemeal approach to development cannot achieve the efficiencies of scale necessary to address the housing crisis.

### *Inputs*

Housing requires the use of two "inputs" that are especially expensive in Greater Boston: building materials and labor. The price of the former fluctuates with national trends, while the latter is steadily high in Massachusetts.

Recent increases in the cost of building materials—lumber, wallboard, PVC pipe, plywood, and fiberglass wall insulation—have increased the total development costs of housing. In 1999, prices increased by 36 percent for wallboard, 25 percent for PVC pipe, 22 percent for plywood, 18 percent for fiberglass wall insulation, and 17 percent for lumber.<sup>16</sup> The cost of lumber, which typically accounts for one-third of the cost of building materials, averaged \$300 to \$400 during the 1990s, an increase of as much as one-third over the previous decade.<sup>17</sup>

The last year has seen some good news. A construction industry index, which measures changes in materials and labor costs in 20 U.S. cities, shows a moderation of prices; while such costs increased by 38.5 percent in 1999, they increased by just 0.9 percent in 2000 and a modest 1.7 percent during the first three months of 2001.<sup>18</sup>

Labor also adds to construction costs. Average weekly construction earnings in Massachusetts are 20 percent higher than in Maryland, a state often used as comparison because of its similar high-technology economy and a comparably sized urban population. Labor accounts for 40 to 50 percent of home construction costs, excluding the cost of land; when land is included, labor accounts for a third of construction costs.<sup>19</sup>

The federal Davis-Bacon Wage Act requires companies to pay prevailing union wages for housing built with federal funding, which includes housing that has FHA insurance or subsidies. State-assisted housing—a total of approximately 170,000 units in 2001—also requires the payment of prevailing wages under Chapter 149 of the Massachusetts General Laws if a project has 11 or more units.

Eleven Massachusetts communities—ten cities and the town of Amherst—have adopted “responsible employer ordinances” that set minimum wage levels and work rules for construction and other labor. REO’s not only increase the wages paid to construction workers, but also establish inflexible work rules. The REO requires employers on public projects to pay the prevailing wage, provide health insurance for all employees, participate in apprenticeship programs, classify workers as employees (not independent contractors, who have few rights), provide workers compensation insurance, and require local residency to work on many projects. Developers complain that the REO ties the hands of the foreman by requiring that workers perform only specified tasks, increasing the number of overall workers on a site.

### *Funding and Financing*

Government subsidies have been a major part of housing policy since the New Deal, but since the Reagan Administration funding has been cut back significantly at the federal level. States may provide funding for low-income housing development, but their commitment wavers over time according to budgetary and political constraints. Massachusetts has been one of the more active states in the nation promoting housing development, but in the last ten years has cut back on many housing development programs and focused more on providing vouchers and “demand-side” assistance and on preserving and revitalizing existing units of affordable housing.

*The federal level:* Since Ronald Reagan's election as president in 1980, the federal government's role in housing has shifted dramatically. Washington has ended its funding of new housing construction in the Section 8 and public housing programs, which in 1980 cost \$28 billion in 2001 dollars. At the same time, Washington has reduced its commitment to rental assistance from about \$8 billion to under \$1 billion, its contribution to elderly and handicapped housing from \$1.57 billion to under \$1 billion, and its contribution to states and localities via block grants from \$7.29 billion to \$4.33 billion.

The federal government has increased its role in other, smaller housing programs. The HOME program, which provides funds for a wide range of distressed families, did not exist in 1980, but in 2000 provided \$1.63 billion in grants to states and localities nationwide. Operating subsidies have increased from \$1.47 billion to \$3.21 billion, capital fund modernization programs increased from \$1.47 billion to \$2.95 billion. Programs for the homeless, which did not exist in 1980, in 2000 cost \$1.04 billion.

Overall, the federal government's role declined significantly, from almost \$70 billion (adjusted for inflation) in 1980 to \$24.8 billion in 2000. Rather than investing significant resources in urban housing, HUD has shifted toward a leveraging strategy. Programs like HOME and HOPE VI are intended to focus resources on projects that can help to transform neighborhoods rather than house the greatest number of families. Some housing advocates have criticized HOPE VI for reducing the overall number of people in public housing as a result of "de-densification" of developments.

In Massachusetts, Section 8 housing programs—which provide reduced rents to qualifying households—remain the biggest federal housing effort. Section 8 allocations increased from \$253 million to \$447.9 million in the last decade. Federal public housing expenditures have remained steady in recent years, ranging from around \$150 million to \$194,000.

Hidden in the statistics about federal outlays to the state is the success of the federal LIHTC program, which increased its outlays to Massachusetts from \$27 million to \$72.2 million in the last decade. LIHTC's growth reflects the increasing role of the private sector in providing services for the poor. One measure of the effectiveness of the program is the utilization rate of the program. For every dollar that is available in tax credits, there are applications for at least two to three dollars more. Recognizing LIHTC's success in attracting capital, the state legislature in 1999 created a similar program using state tax credits. The LIHTC comports with other affordable housing trends, such as mixed-income housing and deconcentration of low-income housing, by complementing public funding sources. The private sector supports LIHTC, too. In addition to profit from the housing partnership,

investors can realize a considerable gain on their investment, as they use the tax to shelter loss from other investments. With profits as high as 30 cents on the dollar, there is a strong incentive for investors to consider affordable housing projects. Because the credit is taken over a period of several years and requires no initial budget outlay, the costs of the LIHTC are largely hidden—and housing is not forced to compete with other domestic items in the appropriations bills, making the program politically popular.

The HOME program brought \$18.3 million to the state in 2001. Community Development Block Grant programs brought another \$13.5 million to the Bay State in 2001.

**Table 1: Uncle Sam's Reduced Role in Housing**  
*Program spending in millions of dollars (constant 2001 dollars)*

Year	1980	1984	1988	1992	1996	2000
Section 8 Project-based	20,870	3,730	2,720	0	0	0
Rental assistance	8,060	3,730	2,770	2,110	440	860
Elderly and handicapped	1,570	850	780	50	1,190	930
CDBG	7,290	5,320	3,930	4,060	5,020	4,330
HOME	0	0	0	1,780	1,530	1,630
Public housing development	7,130	1,370	780	730	0	0
Capital Fund modernization	1,950	2,480	2,310	3,070	2,730	2,950
Operating subsidies	1,470	2,640	2,070	2,700	3,060	3,210
Homeless programs	0	0	100	530	890	1,040

*Source:* Cushing Dolbeare, "Changing Priorities: The Federal Budget and Housing Assistance, 1976–2006," National Low Income Housing Coalition, May 2001, available at <http://www.nlihc.org/pubs/ChangingPriorities.htm>.

**The state level:** The state's investment in housing has shifted constantly over the 1990s, with sometimes abrupt increases and decreases in spending for housing programs.

The major shift since the Dukakis years is the decrease in funding for new construction, particularly for multi-unit housing. In 1990, the state spent \$62.6 million on new housing construction; the figure for 2001 was



**Table 2: State Spending on Housing, 1990–2001**  
*Program spending in thousands of dollars*

Program	1990	1994	1998	2001
<i>New Housing Production</i>				
Development (capital fund)	\$82,603	\$10,967	\$6,732	\$3,850
Rental Development Action Loan	\$1,816	\$2,675	\$2,295	\$2,220
SHARP	\$23,407	\$30,107	\$30,099	\$24,279
<i>Financing</i>				
MHP Fund	\$7,269	–	–	–
<i>Affordable Housing ‘Preservation’</i>				
MHFA – Chapter 13	\$6,000	\$8,231	\$8,184	\$8,166
Housing Stabilization Fund	–	–	\$9,177	\$15,200
FCF (new capital program)	–	–	\$2,781	\$2,500
State LIHTC	–	–	–	\$10,000
<i>Elderly, Handicapped, Homeless</i>				
Alternative Housing Vouchers	–	–	\$2,327	\$4,000
Transitional housing for homeless	–	–	–	\$2,550
Homeless prevention / HIP	\$6,102	\$3,718	\$4,742	\$2,447
Housing Innovations Fund	\$9,945	\$2,031	\$5,625	\$6,500
Individual Self Sufficiency Program	–	–	–	\$2,500
<i>Home-buying Programs</i>				
HOP / Soft Second Loan	\$427	\$1,000	\$2,999	\$4,000
<i>Vouchers</i>				
Mass Rental Voucher Program	\$122,243	\$61,606	\$41,347	\$38,525
<i>Public Housing</i>				
Public Housing Subsidies	\$26,503	\$21,883	\$27,683	\$34,274
Modernization and renovation	\$56,580	\$19,302	\$46,742	\$35,250
<i>Community Capacity</i>				
Affordable Housing Trust Fund	–	–	–	20,000
CEED (local infrastructure)	\$1,558	\$749	\$1,675	\$1,900
<b>TOTAL</b>	<b>348,917</b>	<b>\$162,271</b>	<b>\$193,158</b>	<b>\$220,162</b>

*Source: Massachusetts Department of Housing and Community Development*

\$3.85 million. The prime reason for cutbacks in new construction is the state’s “expiring use” emergency. State resources have been used to pay for refinancing of affordable housing units so that private developers would not convert below-market-rate units to market rates.

But while the Weld, Cellucci, and Swift administrations have decreased grants for new construction, the last year of the Cellucci administration and first year of the Swift administration saw the creation of a \$20 million affordable housing trust fund. Housing advocates fought for the trust fund to not only increase the total amount of public money available for affordable housing, but also to reduce the number of financing and funding programs needed to build affordable housing.

Other development programs mostly held steady over the decade. Funding for SHARP—State Housing Assistance for Rental Housing—was \$23.4 million in 1990 and \$24.3 million in 2001, with some fluctuation in between. Funding for the Rental Development Action Loan was \$1.8 million in 1990 and \$2.2 million in 2001.

Financing—providing a variety of lending instruments—remained a central part of housing policy in Massachusetts. Massachusetts Housing Finance Agency, 13A, a subsidy to reduce the interest rate to 1 percent for rental housing (excluding new production), went from \$6 million to \$8.2 million from 1990 to 2001. The housing stabilization fund, designed to prevent conversion of affordable housing to market-rate housing, went from nothing to \$15.2 million. The state's Low Income Housing Tax Credit began with \$10 million in 2001. One home-buying incentive—the “soft second” program, which helps residents get their first mortgage by providing the money for a refinancing of mortgages—has increased from under \$1 million to \$4 million.

The state's premier financing agency is the quasi-public Massachusetts Housing Finance Agency, which saw major shifts in investment patterns. Financing for single-family dwellings stayed steady, with some rises and falls: \$128.9 million in 1990 and \$140 million in 2001. Financing of multi-family developments fell more abruptly in the early 1990s and only recently reached previous levels. Multi-family housing development financing fell from \$99.5 million in 1990 to \$13.5 million in 1997, with some dips and rises in between; financing levels were \$128.3 in 1998 and reached \$160 million in 2001. The Massachusetts Housing Partnership Fund, meanwhile, grew from just over \$1 million in 1992 to \$45 million in 2001.

The state's voucher programs, overall, declined steeply. The Massachusetts Rental Voucher Program, which had a budget of \$122.2 million in 1990 has steadily declined to \$38.5 in 2001. The New Alternative Voucher Program, designed to encourage non-elderly to move out of elderly housing, did not exist until 1997 and now expends \$4 million.

New funding for public housing developments across the state has been, mostly, a wash. Funds for modernization and renovation to preserve existing public units have declined from \$56.6 million to \$35.2 million from 1990 to

2001. Subsidies covering the operating expenses of public housing developments increased from \$26.5 million to \$34.3 million in the same period. Housing programs for vulnerable populations have gained, but their base level of funding was low to begin with. Programs for the homeless and disabled have increased from about \$16 million in 1990 to about \$20 million in 2001.

*The necessity of complex financing:* Financing poses one of the most complex of all factors of production, especially in the field of affordable housing. In a self-perpetuating cycle, limited funding requires developers to gain expertise in tax and other government programs; the need to hire finance experts to put together complex deals, in turn, drives up the overall cost of housing and therefore the need for subsidies. A study of federally subsidized housing showed that an average of 7.5 funding sources were needed to create units with long-term affordability. The complexity of financing lengthens the overall process. A study by Abt Associates found that the predevelopment time for housing built by community development corporations averaged 29.3 months.<sup>20</sup>

Housing experts refer to these administrative expenses involved in housing deal-making as “soft costs,” so called because they appear more malleable than the “hard” expenses of land and materials. Standard industry guidelines budget soft costs at a rate ranging from 30 percent for new buildings to 35 percent for renovations.<sup>21</sup>

Adding significantly to the soft costs of affordable housing development are high maintenance costs. Even “permanently” affordable public housing units are not immune to the wear and tear of time. The state’s subsidized public housing portfolio needs an estimated \$1.5 billion over the next ten years to keep it habitable for the approximately 85,000 families who live there.<sup>22</sup>

The state’s public housing stock requires substantial capital investments in affordable housing for roof repairs, site improvements, handicapped access, and major heating and electrical systems. According to the Department of Housing and Community Development, one-third of the estimated need is for the replacement of bathrooms and kitchens; other needs include electrical or fire safety work, plumbing, heating, and exterior repairs. Complaints of mold and other environmental contamination, inadequate space in individual rooms, broken locks, and damaged windows and doors are common in housing stock that is 40 years old or more. Depending on the type and size of the project, the per-unit cost of rehabilitation ranges from \$15,000 to \$150,000.

### ***Regulatory Barriers to Housing***

Regulations governing the design and location of buildings increase the cost and development time to build and rehabilitate housing. A report by the U.S. Department of Housing and Urban Development found that excessive regu-

lation accounts for as much as 20 to 35 percent of the housing prices in some communities.<sup>23</sup> The state's Policy Report on Housing Supply claims that regulations and regulatory processes, as well as community resistance, increase the cost of housing development by as much as 35 percent—and consequently limit the production of new housing. These regulations include restrictions on density, zoning codes that limit what can be built on a parcel, environmental regulations governing septic tanks, and building codes that limit rehabilitation of existing structures. The report states that the “key difference” between Greater Boston and other metropolitan areas is that too much regulation has “prevented the private market from supplying more units.”<sup>24</sup>

***State regulatory burdens:*** The state sets the basic standards for construction and rehabilitation of all residential and commercial buildings. The purpose of these building standards is to protect the health and safety of the buildings' users and neighbors. Local governments implement these regulations.

Massachusetts building codes are set and overseen by a range of agencies and boards. Unlike New Jersey, which consolidated its many code agencies in 1975, Massachusetts has allowed its many boards to operate separately under the rationale that each has unique expertise that might be compromised if it were brought into a single agency.

The Commonwealth's principal agency for the building code is the State Board of Building Regulations and Standards. The BBRS shares responsibilities for setting statewide building standards with a number of other agencies, such as the Architectural Access Board, the Massachusetts Fire Service Commission, the Board of State Examiners of Electricians, the Board of State Examiners of Plumbers and Gasfitters, the Department of Public Health, and other agencies. The lines of authority for these boards can be blurry, so officials from the different boards often feel that others are encroaching on their domain.

Local officials often lack the capacity to enforce building codes precisely and consistently. Many communities assign just one employee to coordinate inspections. Compensation for the job is low and assistance is often nonexistent. Local officials exceed their authority by adopting local standards that go beyond the state requirements. The state Attorney General has ordered local governments not to exceed the state mandates, but local enforcement tends to be out of view most of the time.

***Local regulatory burdens:*** Local regulations were cited as the primary impediment to an increase in housing supply in a report of the Massachusetts Executive Office of Administration and Finance released in October 2000 and a followup report of a special “barriers” commission in December 2001. The

reports call for streamlining and easing of rules and regulatory processes at both the state and local levels. Developers across the region complain that local control of permitting and zoning—and sometimes, improperly, state code—allows communities to hold projects hostage at great cost to the developer.

Local zoning regulations have reduced allowable housing development by as much as one-half in the state. According to the Executive Office of Administration and Finance, zoning regulations in many cities and towns permit an average development density of 0.9 units per residentially zoned acre, compared to the average of 1.8 units per acre that now exists on land already developed.

Zoning changes usually occur on a piecemeal basis—usually in response to a particular development proposal. Rather than adopting city-wide zoning reform, cities and towns are choosing to designate specific areas for alternative types of development. “Cluster zoning” is one of the strategies that communities use to preserve open space while allowing for new development. In this type of residential development, developers are allowed to build housing more densely in return for setting aside open space for parks and other amenities.

In the last two decades, the City of Boston has undertaken a massive effort to update the whole zoning code. The Boston Redevelopment Authority has created special planning and zoning advisory committees to rezone the city, neighborhood by neighborhood. Hyde Park is the last major neighborhood that still has not been rezoned in the last two decades. In the rezoning process, planners catalogue every block and every property and explore how these pieces of the puzzle should evolve over the next generation. Most neighborhoods have worked to reduce the density of their communities, but some have built special zones for more diverse development.

Many communities find that mixed-use districts are hard to develop. Issues of parking, traffic, and density have discouraged housing development in commercial districts. Still, smaller towns throughout Massachusetts have been drawn to village center zoning—by bringing buildings closer to the street, encouraging a pedestrian scale where people can window shop and eat, and allowing residential uses with commercial—newer development evokes New England’s traditional elements of community. Arlington, Boston, Cambridge, and Quincy all allow mixed-use development in certain parts of the community.

Cities and towns have adopted a number of extraordinary measures across Greater Boston to either encourage or discourage housing development. More than 50 communities statewide have capped new building permits, and many more prohibit multi-family development. The towns of

Beverly, Bourne, and Truro all recently rejected growth-management bylaws that would have limited or placed a moratorium on all building permits. But Terry Szold, a local land use expert, believes such apparent openness to housing masks the real strategies to limit affordable housing. Towns often restrict housing development by adopting large minimum lot sizes, refuse to build new infrastructure, and use state funds for open-space acquisition and other quality-of-life purposes instead of housing.<sup>25</sup>

In their efforts to achieve other planning and development goals, some planning boards have adopted regulations that unintentionally restrict affordable housing. Overlay districts allow municipalities to protect an area's natural resource or historical and cultural assets. The town of Brewster created a Corridor Overlay District to preserve the town's transportation corridors and its historic and cultural assets. Although bylaws like these may relax existing parking requirements, they may also increase the regulations over site design—and therefore, the costs of housing development.

### *The Political and Community Context*

NIMBYism—the tendency of communities to say “Not In My Back Yard”—poses a powerful impediment to new housing. Even when local government agencies are eager to gain community support for development projects of any kind, a handful of anti-development activists can block or delay a development project at every turn.

NIMBYism, long associated with affluent communities attempting to exclude low-income populations, has emerged in low-income and mixed-income communities as well. In Roxbury, a minority neighborhood in Boston, many residents oppose the development of new low-income housing despite the community's obvious need. In Framingham, where 9.2 percent of the housing stock is affordable, a neighborhood group called FIMBY (“Framingham Is My Back Yard”) is fighting a 40B development by arguing that the town has not received proper recognition for an existing 633 residents that are using low-income housing vouchers.<sup>26</sup>

Urban Edge, a community development corporation based in Boston, took 15 years to develop eight moderate-income homeownership units now called Hyde Park Condominiums. Though the project had the support of the mayor and City Council, the land was zoned for single-family housing and needed a zoning variance to proceed. One of the abutters filed appeals until finally the community was persuaded to support the development.

Opponents of new housing argue that cities and towns are growing too quickly and damaging the “liveability” of New England's landscape. Town meetings convene around property rights like no other issue, and density is the “bloody shirt” for community advocates. More than 100 Brookline town residents recently packed Town Hall to oppose a planned affordable 36-unit

condominium complex. Members of the Center Area Neighborhood Coalition oppose the development because of the height and density of the units—even though two ten-story buildings stand nearby—and because of concerns about traffic and congestion. In an irony typical of the politics of affordable housing, residents also oppose the development because they want longer-term affordability restrictions on the units.

Throughout the state, more than 50 communities have enacted local restrictions on development by limiting the number of permits they will issue for new housing. Traditional working-class towns like Lowell and New Bedford argue that the increase in property taxes from new housing—particularly housing for families, rental housing and affordable housing—cannot offset the burden on municipal budgets caused by an influx of families with school-aged children. More affluent towns, despite more robust budgets, also resist housing because of added schooling costs, limited infrastructure for water and sewer hookups, and a desire to preserve the traditional look and feel of the community.

Whatever the character of the neighborhood, residents worry about the increase in traffic congestion and the competition for limited parking spaces. Residents of inner city neighborhoods like Boston's Roxbury and Jamaica Plain can be heard at community meetings demanding to know where everyone will park if a new multi-family house is built on a vacant lot. City-dwellers and suburbanites alike are also protective of their green space, even if it is neglected and unused.

Developers say that it is not just the number of regulations that makes housing production difficult, but also the haphazard and unpredictable government processing of those regulations. In contrast with one-stop shopping found in the rest of the nation, communities in Greater Boston leave the approval process to a host of separate agencies and processes, which sometimes take months or even years. A developer can almost never know in advance whether a project will be approved, even if it meets the basic guidelines set out in local zoning bylaws. Development is as much a process of local political maneuvering as it is a matter of devising pro-formas, designing buildings, and marketing units.

**Community process:** In the backlash against urban renewal programs of the 1950s and 1960s, Boston and other local governments began using extensive community processes to guide their planning and development efforts. Protests in East Boston, the South End, Allston-Brighton, and other communities dramatically changed the character of planning in the city. The most famous example might be Tent City, a squatting movement in the South End in 1968 that forced the Boston Redevelopment Authority to develop vacant property as affordable housing. Since then, the City of Boston has engaged

community groups on virtually every major planning and development project, as well as the rezoning of every neighborhood. A BRA official stated simply: “In the end, the rezoning is not going anywhere without them [the community] signing off on it.”<sup>27</sup>

***University and other institutional burdens:*** Universities and medical institutions are two of the pillars of Greater Boston’s strong economy and cultural life. By bringing thousands of newcomers every fall, these institutions inject millions in outside dollars and attract some of the best and brightest from the rest of the nation. But these itinerant residents also cause strains on the local housing markets, particularly in neighborhoods in Boston and Cambridge that are close to campuses. A small fraction—about 29,000 of Boston universities’ 135,000 undergraduate and graduate students—reside in campus housing. The rest compete for limited units with other residents of the city. Shirley Kressel, the president of the Alliance of Boston Neighborhoods, states:

Students band in groups and, wielding their parents’ money, bid rents beyond the reach of working-class (and even middle-class) families. In a gradual process of displacement without gentrification, prices and quality of life progress inversely as the nature of neighborhood life changes. A once-diverse commercial spectrum narrows to a pizza-beer-futon mix; in summer, it’s a ghost town that threatens small businesses. The exodus of neighborhood residents, meanwhile, breaks up stable communities where families had lived together for generations.<sup>28</sup>

Several universities have taken important steps to bring their students on campus in recent years. Over the past ten years, Boston University, the Massachusetts Institute of Technology, Simmons College, and Northeastern University have constructed 10,000 new dormitory units. The Boston Redevelopment Authority projects that 5,000 new dorm spaces will be created in the next five years, freeing 1,250 apartments for year-round residents. Perhaps the most innovative housing project is Davenport Commons, a housing complex developed jointly by Northeastern and the Madison Park Community Development Corporation, which provides housing for both students and Roxbury residents.

But university dormitories are a mixed blessing. Residents of neighborhoods with students praise the 24-hour-a-day vitality that students bring and are happy when commuting students are not competing for limited parking spaces. But at the same time, concentrations of college students bring complaints of noise, litter, double-parking, and disruptions of parties and other events. Students, meanwhile, complain about what they see as unfair restrictions on the



movement around the neighborhood. The classic town-versus-gown tension will continue no matter how much housing universities build.

In 1999 Harvard University provided \$20 million in loans and \$1 million in grants for affordable housing research and development. The loan fund, which will operate for 20 years and provide loans at 2 percent interest, is the first of its kind nationally. Three nonprofit organizations—Boston Community Capital, Cambridge Affordable Housing Trust, and the Local Initiatives Support Corporation—manage the pool, which is equally available to Boston and Cambridge. The nonprofits will use the funds to build elderly housing, provide home buying programs for low-income buyers, and a range of other projects.

*Civic capacity:* The limited planning capacity of many smaller cities and towns is another barrier to housing production. Even with new resources from the state, many communities do not have the political or administrative capacity to develop strong housing policies and initiatives. These cities and towns lack the network of community-based organizations that drive the process of housing production and rehabilitation in Boston's urban core. Because of a lack of capacity many towns end up re-inventing the wheel every time they decide to go forward with a project. Even when there is enthusiasm and political will, towns need assistance in working with housing authorities and developers, parsing regulations, and using their resources, including land, to set priorities and a housing agenda.

## The Actors in Housing Policy

The housing expert Michael Stone has famously called housing policy in the United States “rococo”—meaning that its many agencies, programs, and incentives are structured in complex ways that are difficult for even experts to understand. Stone's label applies to Massachusetts.

In Massachusetts, housing policy involves well over a dozen agencies at the state level and hundreds more at the local level, as well as hundreds of nonprofit organizations and community organizations. The leading players in state government, led by the governor, are the Department of Housing and Community Development and the Massachusetts Housing Finance Administration. Regulatory boards and financing entities also affect what kind of housing can be built in the state. At the local level, mayors and city managers, redevelopment authorities, planning and zoning boards, and public housing authorities all play critical roles.

Clearly, in Massachusetts, all kinds of home building and rehabilitation face an obstacle course that only the most daring and experienced professionals attempt with any real success.

### *The Federal Government*

Even in administrations with little involvement in housing policy, the president sets the tone for housing policy, with appointments, public statements on controversial issues, and annual budget proposals. State housing policies arise in direct response to the federal policy. Massachusetts Governor Michael S. Dukakis, for example, made affordable housing construction a priority in direct response to the Reagan Administration's massive housing cutbacks. In recent years, presidents George H. W. Bush and Bill Clinton have focused on "reinventing" assisted housing. It is still too early to see what direction George W. Bush will take, though his decision to make tax cuts a domestic policy priority suggests that he will not make housing a high priority.

The Department of Housing and Urban Development (HUD) is the federal government's primary agency for housing funding and regulation. Approximately 70 percent of the resources spent by Department of Housing and Community Development for housing programs comes from the federal government in the form of Section 8 vouchers, public housing rehabilitation grants, and more than 15 other programs. The federal government once played a powerful role in funding new affordable housing construction, but has played a more limited role since the Reagan Administration.

Since the 1930s, the federal government has encouraged housing investments by chartering and supporting secondary mortgage institutions. These institutions buy the loans of the lenders so that lenders have enough assets to make more loans. The institutions sell investors shares, which are considered as secure as U.S. agency securities. Secondary mortgage institutions also set standards for underwriting, including down-payment requirements, and purchase price limits, creating standardization across the industry. Chartered in 1938, Fannie Mae has become the nation's largest investor in single and multifamily residential mortgages. Congress created Freddie Mac in 1970 as a new secondary mortgage market within the Federal Home Loan Bank system. Ginnie Mae's main function is to guarantee mortgage-backed securities issued by other lenders, for example those backed by FHA mortgages.

The Federal Home Loan Bank is a national network of "wholesale" banks that provide funding and credit products to small banks in cities across the United States. The FHLB raises money by selling institutional investors consolidated obligations—essentially, packages of loans—so that it can provide more competitive lending rates to its member bankers. The FHLB also provides technical assistance to banks and developers and oversees model projects in cities and towns. The regional FHLB organization based in Boston is a cooperative of more than 460 community banks. FHLB

Boston has been active in promoting smart growth, ecologically sound development, affordable housing, redevelopment of struggling mill towns, and minority home ownership throughout New England. In its quarterly report of September 30, 2001, the FHLB Boston reported assets of more than \$40 billion and liabilities of almost \$38 billion.

Perhaps the federal government's most potent tools for community housing are the Home Mortgage Disclosure Act and the Community Reinvestment Act (CRA), enacted in 1976. The CRA requires banks to lend money to the communities where the bank's deposits originate. Community organizations use the CRA to negotiate with banks for lending commitments and other community benefits. In an age of bank mergers, the CRA has become a major process by which urban organizations secure funding for housing and community development. With the recent acquisitions of US Trust by Citizens Bank and BankBoston by Fleet Bank, most in the industry expect that there will be a flurry of CRA-related bank activity in housing lending. As a result of its merger with BankBoston in 1999, FleetFinancial was required to commit \$140 million in low-interest loans and \$12 million in grant funding to the MHP Fund—a quasi-public agency set up to provide additional funding for affordable housing and community development projects. Citizens Bank committed \$2.5 million in grants through a similar negotiation.

The most powerful of all housing programs is also the most invisible. Through the mortgage deduction on federal income taxes, which costs as much as \$80 billion a year in lost taxes to the federal government, the federal government has encouraged home ownership since the New Deal era. Homeowners can write off the interest from their loans—which accounts for most of their monthly payments in the early years of the loan—when filing their tax returns on April 15. That amounts to a subsidy of as much as one-third on monthly payments for shelter. Homeowners can also deduct their real-estate taxes from their federal taxes. According to a study by the Federal Reserve Bank, the mortgage tax deduction encourages the dispersal of housing development to suburban areas—lowering the density of metropolitan areas by 15 percent or more, increasing the overall costs of housing development.<sup>29</sup>

### *The State Government*

The character of housing policy is set by the governor. During the Democratic administrations of Michael Dukakis, from 1975 to 1979 and 1983 to 1991, the state committed hundreds of millions of dollars annually to new affordable housing production. Dukakis argued that public investment was necessary to provide quality homes to people with low incomes. The renovation of the troubled Columbia Point housing complex was the

crown jewel of the Dukakis approach. By investing major funds and working with police and community leaders, the state oversaw the complete redesign of the complex.

The Republican administration of William Weld, from 1991 to 1997, focused on cutting development costs. Faced with major budget shortfalls—and operating at a time when housing prices were falling and vacancy rates were rising—Weld shifted the focus toward providing funds for poor people to find their own housing. In 1996 Weld issued an executive order to identify unnecessary and costly rules that undermine housing development and other productive activities in the state. (A review of 1,595 rules recommended 19 percent for repeal and 44 percent for modification.) Fellow Republican Paul Cellucci continued Weld's push for regulatory relief, directing the Executive Office of Administration and Finance to identify specific housing regulations that impeded housing construction. But Cellucci and his successor, Jane M. Swift, also committed more money to housing development.

Statewide housing policy is coordinated and implemented by a handful of organizations. The Department of Housing and Community Development coordinates state and federal grants and more than 20 housing programs. DHCD provides programs for municipal housing development (through federal CDBG grants), neighborhood services, private housing development (through the federal HOME program as well as a housing stabilization fund and a housing innovations fund), public housing, and rental assistance.

DHCD oversees the operation of 254 local housing authorities (LHA) and their 84,000 public housing units, 40 percent of which are state-aided units and the remainder of which are federally assisted. These units serve some of the Commonwealth's poorest residents; average incomes are below \$15,000 a year. HUD provides funds for housing authorities to subsidize rents and administer public units. One hundred and thirty-three public housing authorities also administer the federal Section 8 rent subsidy and the state's rental voucher program.

The (MHFA) provides financing for affordable homeownership and rental production and preservation programs. The MHFA's primary vehicle is tax-exempt financing, which can be used for the acquisition, rehabilitation and or construction of multifamily rental housing. This line of credit, appropriated by the state legislature, is currently capped at \$100 million. The MHFA offers below-market financing and technical assistance.

Under the direction of Marvin Siflinger in the Dukakis years, the MHFA gained a reputation as an aggressive funder and builder of affordable housing. The agency's mixed-income developments, cut-rate mortgages to first-time buyers, and innovative purchase-rehabilitation packages helped to foster a boom in affordable housing in the 1980s. At the time of Siflinger's

dismissal in 1995, the agency managed a \$4.5 billion portfolio of 50,000 apartments and 15,000 home loans. MHFA coordinated a \$250-million overhaul of the 1,300-unit Columbia Point housing project (renaming it Harbor Point). Under Siflinger, the MHFA rehabilitated 1,900 dilapidated, HUD-foreclosed units in Boston.

The MHFA shifted its direction under Steven Pierce, appointed by Weld to replace Siflinger. Under Pierce's leadership, the MHFA focused on increasing homeownership rather than on rental housing and on the preservation of existing affordable units through refinancing programs. In the last five years, the MHFA processed more than \$578 million in mortgage restructurings. Pierce's administration coordinated the Demonstration Disposition Program ("demo dispo"), which involves management of \$200 million in rehabilitation activity. The agency's efforts to maintain low rents at "expiring use" properties—where developers paid off their mortgage and therefore did not have a continuing obligation to rent units at affordable rates—did not always proceed smoothly.

Developers can also access the resources of the Massachusetts Housing Investment Corporation (MHIC) and the Massachusetts Housing Partnership Fund (MHP Fund) for construction and permanent financing. Created by the Massachusetts legislature in 1985 and 1990, these organizations provide below-market financing to non-profit and for-profit developers, communities, and housing partnerships.

The Massachusetts Development Finance Agency (Mass Development), created in 1975 to help redevelop blighted areas, is currently managing former Governor Cellucci's initiative to allocate 1,000 acres of state surplus property to housing and commercial development.

### *Local Governments*

A number of local officials have taken important leadership roles in promoting housing development across the state. Besides Boston's Mayor Thomas Menino, leaders include Cambridge City Manager Robert Healy, Newton Mayor David Cohen, Somerville Mayor Dorothy Kelly Gay, Northampton Mayor Claire Higgins, and Barnstable Town Manager John Klimm. Springfield, Worcester, New Bedford, Medford, and Malden also have strong records on housing development. Community development departments in Newton, Haverhill, Lowell, Springfield, Chelsea, and Lawrence have won high marks from housing professionals for their efforts.

Under the Zoning Act of 1975, cities and towns have wide discretion to enact local zoning regulations that will "encourage the most appropriate use of land" and promote "a balance of housing opportunities" with the authority to enforce these regulations through local planning boards. Planning boards, with the approval of local residents, have the authority to

specify where commercial, residential, and industrial buildings can be sited. Planning boards are required to prepare master plans, which contain a “housing element,” although the Zoning Act does not include mention of the plans. The boards are also responsible for interpreting building codes, establishing administrative reviews, conducting review processes, checking permits and approving final plans.

Zoning and building codes simply establish the framework for housing and other kinds of development. But municipal planning departments have the power to mobilize the resources and political authority to make development happen. In a sense, zoning and building codes provide the DNA of housing and other development, while planning provides the flesh and bones.

In Boston, individual zoning regulations apply to 21 neighborhood districts and several other special district areas, such as downtown or the Dorchester Avenue corridor. BRA staff members review development projects and make recommendations to the Boston Zoning Commission, which is responsible for revisions to the Boston Zoning Code. Article 80 of the Boston Zoning Code gives the BRA authority over the review of design, size, use, development impacts, and community input into projects that take place in Boston’s neighborhoods.<sup>30</sup>

Many cities have their own planning departments, though they are often understaffed. Boston, Cambridge and Newton stand out both for their resources and accomplishments. They have larger planning staffs, their own resources, and their own programs and policies. Cambridge’s inclusionary housing program, for example, requires 15 percent of the units to be affordable in any project over 10,000 square feet within targeted areas of the city. Lexington’s zoning law states that providing affordable housing is a significant public benefit that will be weighed in considering “cluster” or “special residential development.” Other localities use more forceful language. Newton requires that all multi-family housing allowed through special permitting make 10 percent of its units affordable.<sup>31</sup>

Local governments sometimes provide funds for housing. A study by Phil Herr, an expert on local zoning and planning processes, identified at least 118 communities with local programs to encourage affordable housing.<sup>32</sup> Mayor Menino of Boston has committed almost \$30 million from the sale of the city’s surplus property to create more affordable housing. Boston also plans to use \$13 million in proceeds from the sale of the former police headquarters to build new housing. Cambridge’s linkage program imposes a \$3.15 tax on commercial development to fund affordable housing projects.

The leading local development body in the state is the Boston Redevelopment Authority (BRA), which has directed planning and develop-

ment efforts across the city of Boston since 1959. Mark Maloney, a former affordable housing manager, directs the BRA. In the largest single plan in recent years, the BRA coordinated development of a plan for the South Boston Waterfront that will eventually include 4,000 to 10,000 units of housing. The BRA has also developed strategies to concentrate housing near transit nodes and near neighborhood business districts like Uphams Corner and Dudley Square.

The Department of Neighborhood Development (DND) works with the BRA on many projects and operates as facilitators of housing production through property disposition on a parcel-by-parcel basis. Charlotte Golar Richie, a former state representative, directs the DND.

Together, the BRA and DND have the capacity to develop and rehabilitate hundreds of units annually. State laws (MGL Chapter 121 and Chapter 652) allow the BRA to buy and sell property, acquire property through eminent domain, and grant tax concession to encourage commercial and residential development. Both DND and BRA own property that can be used for housing. Together, the BRA and DND aim to produce building permits for 2,000 units of housing in Boston in 2001. Boston permitted 2,655 new units of housing in 2000, a 29 percent increase over the previous year.

In 1996, Sandra Henriquez became the executive director of the Boston Housing Authority. Henriquez took over a system with substantial capital improvement needs and high vacancy rates—even as more than 14,000 residents crowded the waiting list. Henriquez has won praise for improving the BHA's financial standing and for reducing maintenance problems. Henriquez also managed HOPE VI grants for projects in Roxbury and Mission Hill and won another HOPE VI grant for the Maverick development in East Boston.

While large cities like Boston and Cambridge possess extraordinary staff resources and expertise on housing, many towns in Greater Boston are operated by town meeting and other forms of government that rely on citizen volunteers. Lacking professional staff to develop policy and evaluate development proposals, these towns often fall back on opposition to new housing proposals out of fear that any new development will be costly and disturb the community character. Planning boards can adopt regulations that affect the design and dimensions of streets, buildings, and other public spaces.

### *Advocates and Organizers*

Housing advocacy takes place at many levels. Some neighborhoods have citizen groups that have worked for affordable housing for decades. In other communities, ad-hoc community groups form to respond to a particular

housing issue, such as the conversion of a school into an affordable elderly housing complex.

The Citizens' Housing and Planning Association holds housing seminars on conferences for housing professionals, practitioners and advocates, produces studies on salient housing topics, prepares housing briefs for local, state, and national legislation, lobbies for affordable housing, and functions as a clearinghouse for much of the region. CHAPA also hosts the Building Blocks Campaign—a coalition of low-income housing advocates including MAHA, MACDC, Mass Nonprofit Housing Association, GBIO, and MASS-CAP—which promoted several key housing initiatives including the campaign for a State Housing Trust Fund.

The real estate industry, which includes builders, developers and contractors, speaks with a strong voice. The most active voice belongs to the Greater Boston Real Estate Board, currently led by Edward Shanahan. The GBREB and its Rental Housing Association offers a free-market perspective on housing. The RHA's 1999 report recommended that Boston encourage development of moderate-income households by streamlining the local permitting process. The organization opposes "inclusionary zoning," which would require creating below-market units in every development, unless the state or city provides financial incentives. The Small Property Owners Association (SPOA), led by Skip and Lenore Schloeming of Cambridge, was instrumental in the 1994 statewide referendum that banned rent control in Boston, Brookline, and Cambridge. SPOA has lobbied for a rent escrow law, which would require tenants to pay rents to a special fund pending the settlement of eviction disputes. The local chapters of the National Association of Realtors and the National Association of Home Builders also speak out on issues of importance to their constituents and conduct research.

The Boston Chamber of Commerce has identified the crisis in housing affordability and supply as a major threat to emerging and longtime businesses in Greater Boston. The Chamber is developing an initiative to support local employers that participate in affordable housing development.

Public housing tenants organizations play an important role in neighborhood and housing issues. The Boston Tenant Coalition lobbies government leaders for additional funding to meet the needs of low-income tenants. The tenant rights movement has experienced numerous victories and setbacks in recent years. The Bromley Heath housing development, in Boston's Jamaica Plain, was the nation's first public housing project in the country to turn over management responsibilities to tenant leaders. But after reports of mismanagement and drug dealing, the Boston Housing Authority took over control of the development in 2000; a mediation process brokered by Doris



Bunte, a former state representative and BHA administrator, returned control to the tenants group.

Churches have always played a strong role in housing issues—supporting the development of low-income housing at Methunion Manor in Boston’s South End as early as the 1960s—and escalating housing costs have reenergized faith-based institutions. Cardinal Bernard Law of the Roman Catholic Archdiocese has called Boston’s regional housing crisis “a moral imperative” and challenged government, business, developers, non-profit institutions, and universities to build thousands more units of housing.

Beginning in 1999, the Greater Boston Interfaith Organization (GBIO), headed by Lew Finfer, instituted a Campaign of Conscience, collecting 10,000 petition signatures to persuade state legislative leaders to increase housing’s overall share of the state budget to 5 percent. At rallies attended by hundreds of activists, the GBIO directly challenged political leaders—including Mayor Menino of Boston, state Senate President Thomas Birmingham, and House Speaker Thomas Finneran—to commit more public funds for affordable housing.

Area colleges and universities participate in housing debate through affordable housing courses, working papers, seminars, design contests, and studies of local and regional housing issues. The Joint Center for Housing Studies at Harvard University publishes the annual *State of the Nation’s Housing* report. The Center for Real Estate at the Massachusetts Institute of Technology focuses on the public and private aspects of real estate development and housing markets. Karl E. Case of Wellesley College, Michael Stone of the University of Massachusetts at Boston, and Rachel Bratt of Tufts University have produced some of the most influential analysis of housing nationwide.

### ***Development and Financing Entities***

Community development corporations provide the backbone of affordable housing development in the region, producing approximately 17,000 units in Massachusetts over the last 30 years. CDC’s have nearly 2,000 additional housing units in the pipeline for the next two years. Of these, 900 are in Cambridge and Boston. Massachusetts has a network of 60 community development corporations, the majority of which are concentrated in Boston, Cambridge, and other inner-core communities. The Massachusetts Association of Community Development Corporations is one of the most articulate and energetic voices for affordable housing in the region. Boston officials estimate that over 85 percent of city housing funds have been allocated to non-profits over the last several years.

Boston's network of CDCs is among the strongest in the nation. While CDCs sometimes work together on a project, they more commonly stay on their own turf. CDC influence has been particularly significant in Boston's inner-city neighborhoods of Roxbury, Dorchester and Allston-Brighton. Nonprofit groups often focus on the development and rehabilitation of smaller properties. These difficult sites, with their lower economies of scale and low-income populations, often require complex financing. Leaders from CDCs such as Boston's Mossik Hacobian of Urban Edge, Evelyn Friedman of Nuestra Comunidad, and Jeanne DuBois of Dorchester Bay Community Development Corporation have achieved national prominence in the field.

Banks provide loans and grants for local affordable housing projects. Many of the subsidized housing units built during the 1960s and 1970s involved church-based development entities. More recently, faith-based funds have played a large role in the establishment of community development finance institutions (CDFIs) like Boston Community Capital. As one of the nation's leading investors of equity capital for multi-family housing, Boston Capital owns more than 110,000 apartment units, making it the fourth largest owner of real estate in the country.

Individual developers play an important role in housing debates. Some of the better-known companies include the Community Builders, Trinity Financial, Keen Development, and Avalon Bay. The Community Builders has a portfolio of 3,700 units in Massachusetts in 42 developments, 23 of which are for-profit ventures. Avalon Bay, a for-profit real estate investment trust, has recently received permits from local boards in four suburban towns for a total of 860 units in the past year, though one town imposed 28 restrictions before granting a permit for a new 204-unit development. Some companies, like Avalon Bay, concentrate primarily on Chapter 40B properties.

## **Policy Options for Housing in Greater Boston**

Housing policy reflects many divergent views about the cause of regional housing problems. The state and region have adopted a "grab bag" approach to housing policy. Housing policy is really a collection of many different policies, including tax policy, building policy, welfare policy, and community development policy.

Limited resources foster disagreement about the most efficient way to house the region's most needy citizens. Should the state devote more money to housing production? If so, how much? How much of an impact would regulatory relief provide to developers? Should the state use "sticks" like Chapter 40B to encourage affordable housing production, or should it offer "deep" subsidies as well? Should the state use its limited resources to "preserve"

existing affordable units? What entities are best suited to build affordable housing?: the nonprofit community development corporations that are concentrated in the inner core of the region—or large developers that bring efficiencies of scale to the task?

### *Land*

Because of lengthy processes for obtaining land and the high cost of property in thriving communities, land must be considered a central part of state and regional housing policy. Developers working in specific communities tend to know what sites might be available—and they say that the region has plenty of buildable sites for housing—but gaining access to these parcels requires considerable political skill and experience working with local officials.

State and local agencies have undertaken several efforts to inventory land that might be appropriate for housing development. Through a grant from the Executive Office of Environmental Affairs, the Metropolitan Area Planning Council has been conducting build-out analyses to identify areas where new housing units could be built, given existing zoning laws and infrastructure capacity for every city and town that requests assistance. Even older urban areas with very limited space have found resources, such as tiny Everett, which at five square miles has identified room for an additional 525 housing units. The City of Boston claims 2,500 vacant lots throughout its neighborhoods, 1,500 of which it estimates are buildable.

Governor Cellucci announced in 2000 that the state was releasing 1,000 vacant lots for housing development, as long as local officials approved the building plans. The lots include some large sites, including 30- and 86-acre properties in Westborough and a 32-acre plot at the Lexington-Waltham border. Officials said the state would continue to search for vacant lands and post listings of available properties on the Internet. The City of Boston estimates that it has 1,500 vacant buildable parcels of land in a city that covers 49 square miles. In many communities, many vacant sites have been neglected for years and require extensive environmental remediation to make them habitable. The supply of land in other localities is difficult to determine.

A study by the Citizens Housing and Planning Association concluded that disputes over tax title and a lack of local data and poor agency coordination was largely responsible for an abundance of underutilized property. The report, “Back on the Roll,” says that the lack of a comprehensive policy for land disposition, with clear agency responsibility, impedes the use of tax-delinquent properties for housing. Political “will and leadership” are essential for a comprehensive policy to be developed, the report said. The report also calls for developing creative ways to sell tax-delinquent properties, such

as buying tax liens from local governments, accepting deeds in lieu of foreclosure, and targeting some properties to community-based organizations.<sup>33</sup>

Municipal officials carefully control the disposition of vacant lots and surplus property, negotiating with private and nonprofit developers for each piece of property to assure that development meets the approval of specific agencies and community groups. Such lot-by-lot disposition process can take years, increasing the costs of housing development. To speed the process of property disposition—and to involve more developers in housing production—Boston-area cities and towns might adopt simpler processes. No communities in Greater Boston have adopted an open process of releasing vacant lots to anyone who agrees to certain pre-specified terms, as Baltimore did with its \$1 property program of the 1980s.

Boston adopted a “Clean It or Lean It” strategy in 1996, which pushes delinquent property owners to fix their property or lose it to the city. Private owners of poorly maintained properties were put on notice that they could lose ownership if they did not clean the property. Under the program, if owners do not address the problems, the city will pay a contractor to do the work—and then bill the property owner. A lien is then put on the property, preventing the property from being sold, until the owner pays the city for the cleanup work. If the owner does not pay the city, the city may take ownership of the property. Hundreds of lots have been targeted in the program in its first several years of operation.

In Boston, the value of real estate owned by religious denominations has doubled over the last five years to \$816 million, roughly half of which is owned by the Catholic Church. Cardinal Bernard Law issued a new policy in 2001 requiring that all surplus archdiocesan property be considered for use as affordable housing. The Archdiocese has built 2,000 units of housing in Greater Boston since the founding of its Urban Planning Office in 1969 and plans another 4,000 units in the near future. About two-thirds of the new units would be offered at below-market rates, and the rest at market rates. About 80 percent of the units will be offered for sale, and the rest for rent. The Archdiocese has begun negotiations with communities in Arlington, Waltham, Brookline, and the Brighton section of Boston. Residents of Waltham have resisted a 240-unit development on a 25-acre lot near Our Lady the Comforter of the Afflicted Church, but the Archdiocese and city officials are discussing a land swap to make the project more palatable for residents.

***Address speculation:*** Although speculation is a pervasive problem in dynamic housing markets like Greater Boston, there are probably few strategies to address the problem. Speculation arises out of the very dynamism of the

economy—in which potential developers are always sizing up the best time and kind of development to undertake—and is probably impossible and even undesirable to eliminate entirely. But a number of policies might address speculation’s most negative consequences.

Speculation involves landholders sitting on their property waiting for its value to increase. When land is in short supply, the temptation to speculate increases. Therefore, state and local governments could mitigate speculation by disposing of their unused properties more aggressively—thereby increasing the number of properties on the market and moderating the likely increases in land values.

State and local governments could also work to develop specific projects that engage local property holders. Government’s projects investments could provide the “value-added” that landholders seek, reducing the incentive to hold on to property for long. The more development that occurs around empty lots, the more potential the empty lots have to support profitable development. The City of Boston has undertaken a number of strategies to encourage development of struggling neighborhoods, including the Main Streets program, which revitalizes neighborhood business districts; construction of public facilities like government buildings; and the granting of special district authority, most notably the Dudley Street Neighborhood Initiative’s power of eminent domain.

Tax policy could also reduce speculation. Property taxes are assessed according to the current use of the property, rather than the relative value of the property. If a piece of land is vacant, it has no real use, so the tax rate is low. But if property is taxed at a rate similar to nearby properties that are fully developed, the land owner will have an incentive to develop his own land rather than sitting on it in anticipation of increasing land values. Such a radical shift in tax policy would create intense opposition, not only from the landholders themselves but also from community residents who fear unchecked development.

*Assembly help:* In some areas of Boston and Cambridge, infill lots offer the only sites for housing development. If these parcels were not so fragmented—with ownership scattered among different public agencies and private and nonprofit entities—housing development would be easier. Assembling land into buildable parcels can be expensive and time-consuming.

The government’s major tool to assemble land is eminent domain—the process of taking land from owners to promote a “public purpose”—but the use of this power is controversial and rarely used for housing development. The New England Legal Foundation has reported that government takes property seven times a month in Massachusetts, usually for public facilities

and strategic commercial projects. Eminent domain was used to acquire part of the 200-acre site for Telecom City in Everett, Medford, and Malden, where planners originally planned to build housing as well as an office park.<sup>34</sup> One study of eminent domain in a diverse sampling of Massachusetts cities and towns found that 85 percent of takings were for traditional purposes, such as public infrastructure road repair and conservation, and 11 percent were for urban renewal.<sup>35</sup> Local officials tend to shy away from eminent domain because of both political fallout and the danger of litigation.

Transfer of development rights (TDR) offers a limited but promising tool for assembling land needed for housing development. Under TDR, two separate property owners are allowed to treat their separate properties as a single property under the supervision of a government agent. Suppose, for example, local zoning restricts housing development to one unit per 600-square-foot lot. Two such lots lie near each other, one of them on an ecologically sensitive site. Rather than fight a difficult political or legal battle over that parcel, the owner of the property agrees to transfer his development rights to his neighboring landowner—so that one lot holds two units of housing and the other is left alone. The use of TDR could create ways to allow owners of contested properties to realize the value of their property—and to concentrate housing development where it can take advantage of existing infrastructure. The net result is more development of land with less use of land. As a guide for TDR in Cape Cod notes: “The TDR technique is one instrument in a large orchestra of ways that we can address the complexities of land conservation, development, and the protection of private property rights.”<sup>36</sup>

*Trusts and Swaps:* Land trusts and land swaps have proved effective as means for local governments to provide affordable housing opportunities. Land trusts offer vehicles to gain control of property for non-speculative purposes, such as preserving open spaces or building housing. Most often used as a conservation tool, land trusts could also be used to bank land for community-oriented housing like cooperatives.

Land swaps could be a more powerful tool in a well-developed region like Greater Boston. Land swaps allow owners of different kinds of land parcels to coordinate their development activities. Burlington approved a complex land swap in 2001 that paved the way for 84 units of senior housing, 144 market-rate apartments, 325,000 square feet of office space and structured parking, and protection of 6.4 acres of open space. While some members of the Town Meeting expressed frustration at the developers’ pressure to approve the project—“In my view, he’s held a gun to our head,” said one—others expressed satisfaction that the agreement enabled the community to meet all of its needs.<sup>37</sup>

**Cleanup and reuse of existing land:** In urban areas, environmental contamination poses one of the major impediments to productive land use. So-called brownfield sites are expensive to clean, adding as much as \$25,000 to the per-unit cost of development. The state's Brownfields Redevelopment Fund, which has earmarked \$10 million to turn some of the state's 6,000 contaminated parcels of land into new housing sites, provides an important resource for new housing.

Planners and developers have proposed two major strategies for making brownfields available for development: more money and regulatory and legal protection. Because cleanup can be expensive, only significant investment of public money can reclaim many sites. The state's \$10 million funding is not enough to clean more than a handful of sites for housing. A more promising approach might be to provide regulatory and legal relief for potential brownfield redevelopers. Many companies that might buy or redevelop contaminated sites hesitate because they assume legal liability. Developers are also wary of brownfield sites because of inflexible cleanup standards; at times, for example, it might make sense to cap a site rather than clean it up. It might make sense to relax brownfields liability and cleanup standards in ways that would not endanger public health. Even when such reforms would aid only manufacturing companies, it could create benefits for housing by freeing up other land for residential development.

Planners like Peter Calthorpe and other "new urbanists" have argued for years that cities need to think creatively about redeveloping abandoned properties. Communities from Somerville to Scituate have "greyfields" where strip malls and parking lots lay abandoned for newer shopping malls and trendy urban boutiques in other towns. Those malls—and other spaces, like military bases, hospitals, and government and business complexes—could provide the land needed for mixed-use development that includes housing. The redevelopment plan for the South Weymouth Naval Air Station, a former brownfields site, includes elderly housing and a homeless shelter as well as a mall and business office space. Planners and developers have eyed the Hingham Ship Yard to build housing and business space for years. Community activists have blocked several proposals, but negotiations were under way in 2001 to develop a plan.

**Smaller lot sizes for housing:** Ultimately, zoning reform is might be necessary to enable better use of vacant lots. By allowing housing to be built on smaller lots—to allow levels of density that lie somewhere between contemporary and traditional levels—cities and towns will also create a more fluid market in land. Such a policy would not only allow more housing development, but in the long run might also moderate land costs in neighborhoods.

***Inputs***

In its 1999 report “No Time to Lose,” the Rental Housing Association called on Boston Mayor Thomas M. Menino to negotiate a wage rate below standard market levels for the construction of multi-family housing until the crisis in housing abates. The proposal never prompted any action, however.

There is little that public policy could do to improve the price of building materials. Many communities have established cooperatives to reduce the cost of materials, but most economists say that market mechanisms are the best way to manage materials costs. The City of Boston operates a building co-op for residents making improvements on their properties, but the kinds of materials available on a given day are uncertain. The Boston co-op is targeted at households earning less than the median income.

***Financing***

Housing advocates all over the state argue that state funding is the most important building block for new housing construction. Pointing to the hundreds of millions allocated to affordable housing construction in the Dukakis years, the advocates say that only a similar commitment today can provide the resources necessary for housing construction on a broad scale.

***A bigger share of the state budget:*** Given the high cost of developing housing in Greater Boston—upwards of \$200 a square foot—some kind of state investment might be necessary to create homes at prices that working families can afford. In recent years, state funding has been concentrated on “preservation” of existing affordable units. But to meet the demand for new units, the state might need to invest more money in development of new units. Experts disagree on how much the state might devote to housing. The Greater Boston Interfaith Organization has called for housing to get 5 percent of the total state budget of \$21 billion, which would amount to more than \$1 billion annually. In 2001, state outlays were just over \$220 million.

***Trust fund approach:*** For years, affordable housing developers have argued for the creation of a state trust fund for housing. The purposes of such a fund are twofold: First, to provide more money for housing development. After years of cutbacks in housing development subsidies, the developers say the state needs to provide a new generation or resources to bridge the gap between what low-income households can pay and what it costs developers to create new units. Just as the federal highway system benefits from a “dedicated revenue stream” from gas taxes, so housing needs a regular source of new revenues. Second, a trust fund would create resources that can be used as the “last piece of the puzzle” for complex financing packages. Since most financing tools are restricted



to particular purposes, developers often find themselves looking for an all-purpose source of new funds.

The Cellucci and Swift administrations created a five-year \$100 million trust fund for housing. The Swift administration gives priority to low-income housing, but otherwise allows the funds to be used in a variety of ways. Activists have called for expansion of the trust fund to bring housing investment to 1990 levels, but such investment is unlikely during the current fiscal downturn.

***More spending at the local level:*** The Community Preservation Act (CPA) offers the simplest tool for localities to raise new funds for housing. The state law, passed in 2000, allows cities and towns to assess a special surcharge on local property taxes—up to 3 percent of the assessed value of the property—to provide funds for housing, historic preservation, and open space acquisition. Communities that approve CPA levies must allocate at least 10 percent of the new revenues to each of the three policy areas; localities therefore may spend as much as 80 percent on any one policy area. Revenues raised under local CPA levies are matched by as much as 100 percent by the state. The law is intended to encourage communities to develop balanced programs with broad community support. Since its approval at the state level, the CPA has been approved by 35 communities; another 32 communities have rejected CPA proposals.

Aaron Gornstein, executive director of the Citizens Housing and Planning Association, says most communities dedicate the lion's share of new funds to open-space preservation instead of housing, but he remains hopeful that housing funding could increase significantly in some towns. The communities with significant housing components include Amherst, Bedford, Cambridge, and Newton. "It's definitely because of open space that some of these communities passed it," he said. "You'll definitely find that housing gets the least money. But every town is so different that you get surprised sometimes. But once they pass the CPA, some communities might focus on housing for the first time."<sup>38</sup>

The other alternative for local funding of housing is selling assets to create a funding pool for housing. Boston's Mayor Thomas Menino has also committed funds from the sale of Boston public properties to housing. The sale of the old Boston Police Headquarters building is expected to produce \$25 million for affordable housing development and rehabilitation. But the total yield from the sale of physical assets is likely to be small in most communities.

***Indirect subsidies of affordable housing:*** Linkage could play a greater role in local housing development. In cities and towns that continue to post significant economic growth, municipal linkage programs provide an important

source of housing funds. Boston's Neighborhood Housing Trust has more than \$10 million from linkage fees for affordable housing construction. Mayor Thomas M. Menino, through a home rule petition to the state legislature, in 2000 pushed for an increase in linkage fees from \$5.00 to \$7.18 for projects over 100,000 square feet. The Boston Redevelopment Authority estimated that linkage fees would generate \$12 million in the three-year period ending in 2002. Cambridge is now re-evaluating the terms of linkage, to adjust the amount that commercial developers pay per square foot of new non-housing development. With housing market pressures spilling over from their southern neighbors, Arlington and Belmont are now considering similar programs.

At a time when public funds for housing development are scarce, inclusionary zoning has emerged as a tool to piggyback low-income housing units onto large-scale development projects. From 1990 to 1997, about 1,000 of the 20,000 affordable units produced in Massachusetts resulted from inclusionary zoning laws, according to Phil Herr, an authority on the subject. Under inclusionary zoning, developers of large projects—say, ten or more residential units—must set aside some of their units for below-market renters. Often, inclusionary zoning is presented as a mutually beneficial bargain: In exchange for authority to proceed with a large project, developers create “public benefits” in the form of low-income housing. Inclusionary zoning is an important part of housing policies in California, New York and New Jersey, and Washington, D.C. Studies have identified 72 inclusionary housing programs across the U.S.<sup>39</sup>

More than 118 municipalities throughout the state have adopted inclusionary zoning mechanisms, allowing developers a “density bonus” of additional market-rate units to offset the costs of providing subsidized units.<sup>49</sup> Under inclusionary zoning, market-rate units in effect subsidize below-market units. Inclusionary zoning rules, such as the City of Newton's, often kick in only when developments are of a large enough scale—in Newton's case, ten units—to support the subsidization of below-market rate units. Inclusionary zoning has drawn intense opposition from developers who believe that such “unfunded mandates” dampen the incentive to build new housing.

The inclusionary zoning strategy has taken root in working class Quincy in recent years as well. Since 1985, only 70 affordable units have been produced in Quincy, an attractive coastal city accessible to public transportation located less than 10 minutes from central Boston. The Quincy City Council is considering an inclusionary zoning proposal that would require developers to

make ten percent of a project's units affordable, build ten affordable units off-site, or contribute to an affordable housing trust fund. Given a shortage of buildable lots, and a desire to integrate lower-income and higher-income households, advocates stress that all housing should be built on the same site.

Proponents say inclusionary zoning fosters integrated communities, takes advantage of existing development, produces professionally built and managed housing, and concentrates development to combat sprawl. Opponents say that inclusionary zoning is nothing more than an additional tax on developers, which makes a community a less desirable place to build and passes along the costs to consumers. Many critics say inclusionary zoning constitutes an unconstitutional "taking" that should be compensated under the U.S. Constitution's Second Amendment. More generally, developers complain that inclusionary zoning, in effect, requires them to assume an unfair burden of confronting social inequality. "Developers ask why they should be singled out—why, for example, shouldn't restaurants be required to set aside 10 percent of their meals for the homeless," said Jerold Kayden of Harvard University.<sup>40</sup> One study found that inclusionary zoning works best when combined with incentives—carrots that accompany sticks—but still contributes little to affordable housing production.<sup>41</sup>

A review of the inclusionary zoning experience in Newton found that only 230 below-market units were built in the town in the last 25 years and that the affordability requirement of 50 of those units had expired; in essence, the town produced 7.2 long-term affordable units per year. Developers complain that the law's inflexibility on siting—the affordable units must be located as part of the larger development—undermines the effort to create the maximum number of units for households with modest incomes. "Right now, we are going to have to rent a million-dollar condo for \$1,000 a month," said Robert Fox, the developer of a 59-unit complex on Route 9. "It's 2,400 square feet and I'm not sure people are going to be able to afford the heat." If he were allowed to substitute off-site units for the affordable units in high-end apartments, he could produce five units for every one unit now provided. A provision in Newton's law allows developers to make payments into a housing fund instead of building affordable units; that fund has \$600,000.<sup>42</sup>

If not enacted on a region-wide scale, towns with mandatory inclusionary zoning rules risk losing out on any type of development, as developers leapfrog the restrictions. This may be less true in Greater Boston than in other regions, because of developers' ability to use the Massachusetts Comprehensive Permit process to override local regulations under Chapter 40B.

***Institutional master plans:*** Because universities and medical centers play such an important part in the city's economy and built environment, the Boston Redevelopment Authority requires institutions proposing major projects to adopt master plans to guide campus development. These institutional master plans, which supersede the zoning for the neighborhood, must gain the approval of the BRA and community groups and provide for a balanced approach to longterm development. No major project can gain approval unless it is "adequately" described in the plan.

Institutional master plans can be powerful tools for the creation of new university housing. Since master plans are designed to address the full range of challenges faced by an institution's host community, and housing is a primary need of universities, requiring construction of dormitories would be a reasonable public policy. Medical institutions might also be asked to build housing for their workers, since many come from out of town. MASCO, a coalition of medical institutions in Boston, has developed a number of programs to encourage workers to live near work. The medical institutions might also be encouraged to build their own housing near their campuses.

### ***Improving the Regulatory System***

Bruce E. Percelay, a real estate developer, describes the challenge of building and zoning regulations simply:

Zoning restrictions designed to reduce density have their price, and today that price is being borne by tenants in the form of higher rents. This is not to suggest that we abandon our values; rather, we must establish a new balance between the interests of those who already have apartments and those in need of housing. We need to revisit density restrictions and consider allowing larger buildings on sites currently deemed impractical for development because of zoning limitations. Parking requirements should be relaxed, especially on sites located near public transportation. Requirements that call for parking equal to the number of apartments, or even close to it, are a deterrent to the economic feasibility of development. Landlords who do not provide parking might, for example, be allowed to make a payment to the MBTA for infrastructure improvements or be required to provide T passes to tenants.<sup>43</sup>

If Percelay is right, then overhauling the tangle of state and local regulations could be the most important single policy to increase housing development and rehabilitation. Such an overhaul would operate at both the state and local levels.

***State code streamlining:*** Reformers have called for a major overhaul of the state's building and specialty codes. New Jersey consolidated its housing

codes into one system under one agency in the early 1970s and has become a model for a streamlined, understandable process for building construction and rehabilitation. Thomas M. Riley, the code development manager for the Massachusetts Board of Building Regulations and Standards, states: “New Jersey did it right. They were able to consolidate building construction and specialty construction—wiring, plumbing, gas, and building—under one roof. They are able to resolve conflicts internally. They also have a budget that we would bleed for.”<sup>44</sup> Getting the state’s many boards to become part of one super-agency would require strong leadership from the governor, as well as a long process of rewriting code language.

Experts disagree about how detailed building codes should be. New Jersey’s detailed code, hundreds of pages in length, provides clear requirements and options for every exigency. Massachusetts, by contrast, has an 18-page building code that offers developers and building inspectors the latitude to negotiate designs that meet the goals of health and safety. New Jersey officials boast that their approach sets clear standards for every issue that developers face, reducing the need to negotiate and seek special permission from state and local officials. Massachusetts officials, meanwhile, argue that their leaner code document is more realistic because it does not attempt to foresee every issue that arises in the construction process.

In January 2002, Governor Jane M. Swift signed a bill to reduce the regulatory and tax burdens on the conversion of old buildings to new housing. The bill allows municipalities to forgive up to 75 percent of outstanding tax debts owed by past owners of buildings when the buildings are sold and converted to housing. The bill also reduces the time required to get the necessary permits and approvals for housing development.

**Local zoning reforms:** Massachusetts communities like Boston, Cambridge, Somerville, and Worcester are famous for the prominence of “three-deckers,” the three-story buildings with housing units on each floor. The three-decker provided working class families with an opportunity to buy their own homes while at the same time earning rents and helping family and friends with affordable units. But in most Massachusetts cities, building three-deckers is all but illegal. A report by the Small Property Owners Association explores the issue:

With a vision of single-family suburbia in mind and a desire to halt immigrant mobility, the setback requirements imposed by municipal zoning laws on probably 75 percent or more of multi-family housing lots stopped triple-deckers and now make it impossible to reconstruct the same historic structures currently built on them. If a house burns down, if a house gets abandoned and bulldozed by the city, or if some-

one decides to tear a house down and rebuild, what was originally located on the lot cannot be rebuilt in the same size or style, no matter how beautiful or historic or efficient the original housing was.<sup>45</sup>

The loss of the three-decker underscores a basic challenge for the urban housing crisis: Unless zoning laws are reformed to allow traditional styles of urban development, building new housing will remain prohibitively expensive for all but affluent families. Without the ability to build more than one unit on a parcel of land, housing developers will not be able to take advantage of efficiencies of scale or use land economically—and people earning less than \$50,000 a year will have difficulty affording their own place or helping their friends and family.

Zoning codes in cities and towns pose a number of barriers to housing development that deserve examination. Lot sizes, setbacks, parking requirements, floor-to-area ratios and height requirements, and single-use districts all increase the cost of building a unit of housing. In recent years, no city or town has undertaken a major effort to make housing construction more economical across the board. Some communities have set aside zones for new housing, but those zones are limited geographically and do not allow builders to recreate the styles of housing that have made old neighborhoods like Boston's North End, South End, Beacon Hill, and Back Bay so attractive.

The City of Boston has actually reduced the possibilities for building new housing under its rezoning efforts of the last two decades. Under the community process for rezoning neighborhoods, sentiment for the suburban style of development predominates. Responding mostly to concerns about traffic congestion, residents have “downzoned” their neighborhoods to allow less housing than before. To respond to legitimate concerns about congestion without suburbanizing its neighborhoods and exacerbating the housing crisis, cities like Boston might explore ways to reduce auto reliance while increasing housing. Transit villages and car sharing offer two possible approaches.

The BRA encountered political opposition in its most significant attempt to ease zoning rules to foster new housing. The BRA proposed increasing the maximum height of buildings from 155 to 350 feet in parts of the city, as long as the building dedicated at least half of the space for housing. But protests from City Council members and community activists put the proposal on hold in January 2002. Even opponents of the proposal said it would help to meet the city's goal of providing more housing, but they objected to the lack of analysis of the impact of the new units on local economic activity and public services.<sup>46</sup>

In recent years, the most aggressive approaches to zoning reform have been confined to specific districts. In May 2000, the Brockton City Council approved an amendment of the Zoning Bylaw to allow increased density in the Pleasant/Prospect neighborhood. The bylaw reduces the minimum lot area to 6,000 for a single-family home and 7,500 for a two-family home and also requires a minimum lot frontage for a single-family home of 50 feet and 75 for a two-family home. This overlay zone supports new housing development on what had been undersized lots, which would have required a special zoning variance for redevelopment.

**Public housing improvements:** Since the early 1980s, when the federal government withdrew from low-cost housing production, housing advocates have called for a return to major federal subsidies for affordable housing. Experts like Rachel Bratt of Tufts University and Michael Stone of the University of Massachusetts argue that public housing has been a major domestic policy success, and building low-income units of all kinds should become a national priority.<sup>47</sup> If the housing crisis in Boston or anywhere else is a matter of supply, then the answer is simple: Build more publicly owned and operated units.

Another prominent approach is to redesign public housing through low-density, townhouse and garden-apartment style construction with mixed-income populations. The federal HOPE VI program has done just that by demolishing almost 70,000 units in 90 cities across the U.S. and using public-private partnerships to build the new homes. Residents at the mixed-income developments receive education, job training and other support. Detractors complain that the overall supply of units is being drastically reduced for poor people at a time when affordability is becoming a more acute problem. The Maverick Gardens housing project in East Boston, for example, which is now home to 398 families, will house only 286 in the new development.

The conservative housing analyst Howard Husock counters that the Commonwealth has little need for new public housing, but instead must manage its existing stock of public units better. Husock and his colleague David J. Bobb found that 9 percent of Boston's 35,000 public housing units were unoccupied, while another 9 percent of the units house fewer tenants than their size warrants. By managing the existing housing stock better, Husock and Bobb argue, localities can make thousands more units available to needy people. Noting that tenancy in public units averages 84 months compared to a national average of 72 months, Husock and Bobb also call for term limits on public housing. By creating greater turnover, public housing would encourage tenants to play a more active role in seeking housing and

make more spaces available to truly needy families. The authors assert: “A draconian imposed time limit would probably not be necessary. Simply offering prospective tenants the chance to jump the waiting list by agreeing to five-year time limit would likely spark high enrollment—and in the process, make public housing a transitional program, not a dead end.”<sup>48</sup>

**Special cases:** The pressure for regulatory reform often comes from particular demographic groups in a community—such as elderly people or families with children. Overall, the demand for smaller units might increase over the years as the region’s population ages and household size decreases. A glimpse of this new demand can be found in Westwood, which has a significant elderly population. As a town of large-lot zoning and half-million dollar houses, Westwood provides few options for empty nesters, retired spouses, and elderly singles. The town’s accessory dwelling bylaw requires special permits. In response to local housing needs, the town created a “Special Residence District” that allows a maximum density of 16 units per acre for elderly housing. The planning board is coordinating a community process to focus on the housing needs of seniors and empty nesters.

Some towns have responded to changing demographics by allowing the addition of accessory apartments. With a separate entryway, a bathroom and kitchen area, accessory apartments can be easily created by carving additional space out of an existing home. More than 30 cities and towns in the state allow accessory apartments by right, some by special permit, and others in designated zoning districts. In the City of Newton, accessory apartments are allowed by right if they meet certain lot area and building area requirements; otherwise they are allowed by special permit. But as of June 2001, the town permitted only one accessory apartment.

**Better mandates:** The state’s most aggressive law for affordable housing is Chapter 40B, which mandates that every city and town in the Commonwealth provide 10 percent of its housing stock for affordable or below-market units. Chapter 40B has created 25,000 units of affordable housing in Massachusetts in the past 30 years—an average of about 830 a year. Still, only 23 of the state’s cities and towns have met the 10 percent goal. In communities that do not reach the 10 percent goal, developers may get special permission to override local zoning ordinances to provide affordable housing. A state Housing Appeals Committee oversees implementation of the law when developers seek exemptions from local zoning. In return for permission to build, 25 percent of the units in a development must be affordable to households earning below area median income.

The issue of Chapter 40B has become so prevalent in the housing debate that one organizing event in a local community invited residents to



“Dine and Dance and 40B.” The battle over 40B focuses on four key questions: how much power developers should have over localities, what units should be counted as “affordable,” and what should be done about “bullying” by developers.

The central question is how much leverage the state government and private developers should have over the supply of affordable housing in cities and towns. Cities with large inventories of affordable housing—like Boston, Cambridge, Everett, and Somerville—argue that housing is a regional problem requiring new development in suburbs as well as cities. Boston Mayor Thomas Menino has argued forcefully for greater production of affordable housing in suburban communities. But suburbanites counter that the region should allow a diverse range of community types and that dispersing low-income populations throughout the state will unsettle stable communities. Many residents feel that “their” land cannot support much more growth and local governments cannot provide services to new residents.

Suburban communities have also questioned how “affordable” housing units should be counted. Traditionally, affordable housing means units that provide subsidies for low-income residents. But many suburban officials and activists say the tally of affordable units should include mobile homes, halfway houses, accessory apartments, and other units that rent at a rate that is affordable to low-income households. One legislator even suggested that prison beds be included in affordable housing tallies.

Finally, 40B raises the specter of developer bullying. Town officials throughout Greater Boston complain that developers have used the specter of 40B to push for non-housing development, such as big-box retail and office developments. By threatening to construct large housing developments if they do not get approval for the retail and office buildings, developers run roughshod over local authorities. Housing advocates and developers respond that such claims are false, noting that developers of commercial and residential projects are different and do not coordinate their activities.

***Landlord-tenant relations:*** Regulatory reform goes beyond removing or simplifying legal requirements on housing builders or providers. The Greater Boston Real Estate Board and the Small Property Owners Association have campaigned for an “escrow” bill to improve landlords’ leverage in disputes with tenants. Under current law, tenants may withhold their rent to protest virtually any problem with an apartment. Landlords are seeking a requirement that withheld payments be deposited in a special banking account while the dispute is being resolved. Escrow accounts could reduce the financial risk of being a landlord and encourage more people to enter the business.

***Improving the Community Context***

The cities and towns in Greater Boston possess widely varying political and planning capacities. Many town planning boards are staffed by volunteers, with neither the time nor the expertise to carefully develop or evaluate housing development plans. By providing technical expertise, as well as models for appropriate housing development, the state can bridge the capacity gap.

***Planning resources:*** Before leaving office in 2001, Governor A. Paul Cellucci also issued Executive Order 418, which authorizes the Department of Housing and Community Development to allocate \$30,000 in planning money for every city and town in Massachusetts. Because these grants have not been widely used, DHCD has undertaken intensive outreach efforts.

Part of the outreach involves working with communities that have experienced difficulty in getting “certified” for state housing money. As part of Executive Order 418, cities and towns applying for state grants must become “housing certified” by demonstrating a commitment toward meeting affordable housing needs. In the first year of the program all of the 201 towns that applied received the housing certification. A change in the program, which requires certification for federal block grant money, encouraged more applications in 2001. For the handful of towns that did not receive certification in this round, the state offers application guidance, and allows them to apply again. DHCD analysts believe that the tool has been effective in motivating communities to think about and plan for housing.

Regional planning efforts also may improve the political environment for new housing. Efforts by the Cape Cod Commission, the I-495 initiative of the Metropolitan Area Planning Council, and Telecom City help to improve local capacity for new housing and other development. The North Suburban Consortium, which encompasses seven communities, pools HOME block grant funding. This consortium also functions as an incubator for new programs; under that program, the Malden Redevelopment Authority developed a first-time homebuyer program that has been copied by other members. In 2001, members of the Franklin County Regional Council of Governments filed a joint regional application to DHCD in order to get the housing certification necessary for several state housing awards including CDBG funding.

***Institutional housing construction:*** Universities and other major employers have a special need for housing that is affordable at all income levels, as well as a unique capacity to coordinate the development of new housing. Under their institutional master plans, they are required to address the impact of their campus development on the surrounding communities. These institutions can encourage new housing development by providing credit programs and offering planning and design services.

The Greater Boston Chamber of Commerce has recently contracted for a study of employer-assisted housing programs. In successful local models, employers offer employees matching funds for down payments as part of a benefits package. Many employee-assisted housing programs focus on workers whose incomes cannot support a mortgage in the place where their jobs are located. Loans or grants can increase the rate of homeownership and provide a stable workforce for the future. Despite the inherent appeal of employer-assisted housing, neither the Chamber of Commerce nor Fannie Mae, which sponsored the study, could identify any such programs in the region.

**Education:** Community organizers say education is the solution to community opposition to housing. Educational campaigns to debunk myths about affordable housing—for example, the ideas that all apartment buildings undermine a town’s revenues or that subsidized housing attracts crime and lowers property values—can be persuasive. Technical assistance can also bridge the gap between community priorities, government obligations, and developer profitability. A number of national organizations provide resources for local planning, architectural design, and management expertise. Since its inception in 1999, the MHP Fund has provided \$357,000 in grants to 50 projects. The Town of Hudson used the program to hire a consultant to help with the management of a 40B proposal for a large apartment complex. The consultant brought much-needed expertise to the complicated process of housing development. The effort will contribute housing that is appropriate to community needs and will save both the town and developer money.

## The Challenges of Housing Greater Boston

Housing has long been recognized as a commodity more complex than four walls and a roof. Housing lies at the center of people’s opportunity to seek education, employment, recreation, friendships, and community engagement. Housing is the lynchpin of local government finance. Housing is also a major industry, comprising about 7 percent of the national economy.

But while housing is a complex issue, some of the answers to the housing crisis in Greater Boston might be simple. Streamlining the state’s outmoded and tangled system of codes might be an important step. Loosening local zoning regulations to allow for greater multi-family development would spur more communities to provide new housing. Increasing funding for certain kinds of new construction, such as manufactured or modular housing, might reduce overall development costs. Requiring universities to house a greater proportion of their students, as part of every university master-planning effort, could relieve the pressure that students bring to the region. Improving the financial tools available to builders and homebuyers makes sense as well. And

providing planning tools and expertise to cities and towns could reduce local resistance and create a new constituency for housing of all types.

The tendency in complex policy challenges is to produce complex solutions. Getting a man on the moon required a complex operation. Solving the curse of poverty or the curse of AIDS also require multi-pronged approaches. But although housing is more than four walls and a roof, it is those four walls and a roof that enable other things to happen. If building can be made simple again—safe, attractive, but simple—then the host of other problems associated with housing might be easier to address as well.

## 6. *Planning the Fragmented Metropolis: Acting Regionally and Locally*

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*Anthony Flint*

MIDDLEBOROUGH HAS A RURAL AND FOLKSY FEEL. The landscape is characterized by scrub oak and pine barrens, cranberry bogs and family restaurants, and simple gas stations along two-lane roads. The local police department recently stepped up enforcement of an ordinance forbidding playing loud music on car stereos. But the town's tranquility faces an unprecedented challenge in the coming years. Middleborough's zoning allows for a volume of development that would fill two-thirds of downtown Boston, according to the state's new "build-out" analysis, which assesses how cities and towns would grow under current zoning rules. The development, however, would not look at all like downtown Boston. The development would be spread out across vast acres of now-undeveloped land, not built along pedestrian-oriented streets with easy access to a wide variety of business, social, educational and social activities. Middleborough is poised to become an "edge city," a community of nondistinct structures surrounded by roads and parking lots.

Like many communities along Interstate 495 outside of Boston, Middleborough is intent on increasing its commercial tax base, to pay for schools and basic services. Zoning permits a potential 31 million square feet of additional commercial and industrial development—strip malls, large-scale retail, hotels, conference centers, golf courses, office parks, warehouses, assembly plants, and light manufacturing facilities. Housing is in the mix, too, but the modern single-family subdivision is the preferred design; some 10,588 new units could be built across 21,255 acres, so families with children are spread out over the maximum area of land. Some would prefer no new children at all because of the costs associated with public education, so large-lot zoning is used to keep the numbers down. Even so, a maximum level of development would add 5,900 students to the existing 3,400-student school system, according to the Executive Office of Environmental Affairs. Overall the population would rise from its current 19,700 to 50,000.

Planners assessing development patterns believe that those who live, shop, and work in Middleborough will get around almost exclusively by car, on secondary roads and the convenient interstate highways of I-495 and I-195. Commuters can be in Boston in less than an hour by commuter rail—but first they must get themselves to the station, almost always by car. In the build out, an estimated 90 miles of new roads will be required. New infrastructure must also be built to satisfy the anticipated 4.6 million more gallons of water needed per day. Solid waste disposal is projected to increase by 15,500 tons per year.

The nearby community of New Bedford, meanwhile, has plenty of existing infrastructure for water, sewer and transit—only 33 miles of new roads would be required in its maximum build-out—but vacant lots go wanting. Retail has long since migrated outside city limits, to Dartmouth and other nearby towns where new shopping areas have led to abandonment of earlier generations' stores and parking lots. Some efforts at revival of older communities have been successful, with the rehabilitation of theaters, attraction of tourists, immigration growth, and an attractive and affordable housing stock. But the old whaling capital has been struggling to confront high unemployment and dropout rates. New Bedford struggles with a lingering reputation as a center of crime and poverty. Like many such communities, the city has debated the ultimate last-ditch strategy for revival: a casino.

The contrast of towns like New Bedford and Middleboro can be found throughout Massachusetts. “Infill”—a strategy for community revitalization that encourages developers to build on vacant parcels in older communities—is out of favor. There are exceptions. Salem is encouraging development near mass transit, and Somerville is trying to build a cluster of different activities near a new transit station at its massive Assembly Square site. But for the most part, redevelopment of existing urban centers is viewed as quaint, a relic from the 1970s and the first administration of Michael S. Dukakis. Big employers like Cisco are simply not interested in Lowell; the company plans a sprawling campus on 300 fresh acres in Boxborough.

Other attempts to spark “infill” development often face resistance from communities. Planners for TeleCom City, a joint development venture of Medford, Malden, and Everett, eliminated plans for new housing when neighbors complained about traffic and school impacts. The same kind of community resistance occurred at the Northpoint development site off the McGrath Highway in Cambridge, near the Lechmere Green Line station. When developers proposed building on parcels vacated by Monsanto and General Electric, neighbors said no to housing.

The major exception is Boston itself, though the city's planning process and management of the building boom is continually criticized. In a way, the

city suffers too much of a good thing. The wealthiest residents, including young professionals, empty-nesters and retiring baby boomers, are flocking back to gentrifying neighborhoods for the urban experience — and driving housing prices out of reach for everyone else. Traffic congestion, too, is badly straining the local street system, and many residents worry the city is emphasizing development that will cater to conventioners and visitors at the expense of middle-class residential neighborhoods. The school system continues to founder, as affluent residents send their kids to private schools, or don't have kids to worry about at all.

In the suburban towns outside of booming Boston and the struggling, medium-sized inner-core cities, meanwhile, a localized and fragmented approach to planning prevails. Building is accommodated on a town-by-town basis: across the state, 351 separate entities, each ushering in growth as local leaders see fit, secure in home rule and a century of unchanged land-use policy. The framework virtually guarantees a continuation of post-World War II development patterns: low-density, spread out, and car-dependent. Such sprawling development consumes land at a rate of 40 acres a day, according to the Massachusetts Audubon Society. As farmland has diminished by 50 percent since 1950, land used for subdivisions, office parks and malls has increased 200 percent over the same period.

Half the states in the nation—most notably, Maryland, New Jersey, Vermont, Oregon, Washington and Utah—have adopted some kind of statewide growth management plan in the last decade. But Massachusetts leaders have created no similar, concerted effort to get a handle on growth on a statewide basis. State environmental secretary Robert Durand has said that a “top-down” regional or statewide planning effort will never work in Massachusetts. Instead, Durand argues, localities should be given tools and some funding to plan better individually. Others disagree. Senate President Thomas F. Birmingham, a candidate for governor in 2002, appears interested in more centralized strategies. The quasi-governmental Metropolitan Area Planning Council and the Boston Society of Architects have convened informal planning processes to develop growth-management strategies.

True to Durand's toolkit approach, the state has adopted a number of local initiatives to address sprawl. In these experiments, cities and towns have established “compacts” to discuss new development projects, the regional impacts of growth, and infrastructure needs. The Cape Cod Commission, which possesses the rare power to approve or reject projects based on a set plan for 15 communities on the Cape, is the most powerful such effort. Its predecessor is the Martha's Vineyard Commission. North of Boston, the Telecom City project brought local officials in Malden, Medford

and Everett together to promote office development across municipal borders, including an innovative revenue-sharing scheme to replace the conventional town-against-town competition for tax dollars. Abington, Rockland and Weymouth have banded together to play major roles in the redevelopment of the South Weymouth Naval Air Station. Plymouth, Wareham and Carver have done the same in the face of the A.D. Makepeace Company's three-town, 6,000-acre planned-community proposal. The towns around the former Fort Devens have come together, too.

But in the meantime, development barrels ahead. Massachusetts has not experienced the kind of urban abandonment and suburban growth as communities in the Sunbelt. But Massachusetts sprawls on.

### **Issues Facing the Region**

At first glance, Massachusetts seems positioned well to absorb building and development within the fabric of its existing urban infrastructure. The Commonwealth's landscape, settled in Colonial days, lacks the wide-open spaces of Florida or Utah. Instead, the landscape is dotted with urban centers outside the core of Boston and Cambridge—Somerville, Chelsea, Lowell, Lawrence, Brockton, New Bedford, Fall River, and Worcester. Each of these cities boasts an abundance of infrastructure for transportation, housing, and water and sewer service, as well as land that can be redeveloped to revive old neighborhoods. In fact, viable models exist for that kind of development. Communities like Brookline and Newton—dubbed “urban villages” by the historian Sam Bass Warner, Jr.—offer a mix of building types, business and residential spaces, parks and civic spaces, and transit access.

Despite these venerable models, new development has spread out around these existing urban centers and beyond first-ring suburbs. Development has surged in the region's hub (Boston and Cambridge) and on the rim (the “sheetrock suburbs” along Route 128, I-495 and beyond). Interstate 495—originally built through pig farms solely to move trucks and cars through the state without having to go through the congestion of Boston—provides a magnet for the rim development. So much of the development has already occurred that some experts believe that planning must be focused on the state's few untouched places. Others believe that innovative approaches to planning can help overwhelmed communities such as Franklin create policies to control commercial and residential development. Planning also can help residents and civic leaders get a better understanding of the benefits of managed growth in communities such as Bolton, where a backlash against all development is in full force.



The problem of sprawl and uncoordinated development has many dimensions in Greater Boston. First, business and residential development is spreading out, making coordination of development and common infrastructure and services difficult. Second, the search for quality of life is a double-edged sword. On the one hand, people seek the ideal of the classic New England village, apart from the congestion of the more urbanized parts of the region; on the other hand, this search has exacerbated the region's sprawl and made it more difficult to foster communities that bring people together. Third, the system of local government finance has led to a practice known as "tax farming," which favors office parks and malls over housing. Finally, the region is a checkerboard of unequal communities, which creates competition to attract business and to keep out housing and other kinds of development that are considered undesirable.

### *Spreading out*

Any analysis of building and development in Massachusetts must start with people—the people living, working, shopping, and recreating in the cities and towns across the state. Unlike the Southeast, West or Southwest, development patterns in Massachusetts are not driven by significant increases in population. Compared to the fastest-growing states in the 1990–2000 period—Arizona, Nevada and Colorado, where the population grew by 30 percent—the Massachusetts population grew by only 5.5 percent. The Commonwealth was home to 6,016,425 people in 1990 and 6,349,097 in 2000, according to the US Census. That is an increase of 5.24 percent.

The low rate of population growth and the high rate of land consumption—a classic indication of sprawl—fits the longstanding urge to "Go West, young man" in American history. In Massachusetts, people and business move out in concentric rings along Boston's beltways, Route 128 and Interstate 495. Single-family subdivisions are followed by retail and services, which in turn creates the congestion that residents sought to escape in the first place. A process of leap-frogging occurs again and again, with population moving steadily further out from Boston. Amazingly, the Boston metropolitan area is now considerably less urban than Los Angeles, according to the Boston Society of Architects Civic Initiative for a Livable New England. While 2,700 people live in the average square mile of Greater Boston, 5,400 people live in the average square mile in L.A. Overall, population density is down a full 50 percent from 1950 to 2000, according to the BSA.

The state's most sterling story of urban living—Boston—could ironically contribute to the problem of sprawl. Boston has reversed a 30-year decline in its population, according to the 2000 Census. The population did

not quite hit 600,000, as many had anticipated, but the city has succeeded in attracting immigrants, young professionals, and even retiring baby boomers who raised children in the suburbs but are now flocking back to urban neighborhoods. Affluent urbanites, new and old, crave the excitement of the city and move into brownstones or the city's famous three-decker homes. But Boston might have too much of a good thing. The most affluent people establish beachheads in attractive and convenient neighborhoods, sending less affluent people scrambling to establish themselves elsewhere. Gentrified neighborhoods in Boston, first-ring communities such as Brookline and Newton, and communities farther out ranging from Hamilton to Weston and Concord to Hingham are, generally speaking, claimed by the affluent. The rest of eastern Massachusetts is for everybody else, and moderate-income families find they must search farther and farther from these wealthy areas to find affordable housing.

A working-class family, for example, may have discovered in the 1980s that they can no longer afford rents in the South End. If they moved to Roxbury, by 2001 the rents are escalating there as well, so they must consider living in Lynn, which is not experiencing the same kind of urban revival as Boston. Or, they might try to buy a single-family home in the only place they can afford it—not Brookline, not Concord, but a town such as Bellingham or Franklin, one of only four communities in the commonwealth where the median home sale price matched the median income, according to the Metropolitan Area Planning Council.

Since the quest for affordability invariably means looking farther afield, owning a car—often two—becomes a necessity. And that is the chokepoint where moderate-income earners and their more affluent counterparts join together again: the roads and highways and arterials. The affluent and moderate-income earners are spread around for different reasons, but they share a common, long commute, often from a home in the suburbs to a job in the suburbs. And so the phenomenon of spreading out has its ultimate manifestation: the traffic jam.

### *'Quality of Life' and its Discontents*

The fundamental dilemma of contemporary development patterns can be traced back to expectations for a good "quality of life." Whether in Boston's Back Bay or rural Bolton, residents fight fiercely to protect their quality of life. Robert Yaro, executive director of the New York-based Regional Plan Association, calls this impulse the "pull-up-the-drawbridge" response: saying "no" to any new projects and major increases in density.

But what do people mean when they talk about the quality of life? The classical ideal is the New England town. People seek out homes along quiet

roads, but even more they crave the center of town—which carries evocative names like town center or the village green—and the sense of belonging and excitement that these configurations provide. Alex Krieger, chairman of the Department of Urban Planning and Urban Design at Harvard's Graduate School of Design, calls this ideal the "middle landscape." The blend of town and country offers human-scaled buildings, a cozy street network, home-grown businesses, recognizable landmarks, and a sense of history. Towns all over Massachusetts—inner-core communities like Cambridge, Newton, Somerville, Quincy, and Watertown, as well as more suburban communities like Natick, Framingham, Lexington, Concord, and Weston—all offer versions of this middle-landscape ideal. But many of them have been overwhelmed by automobile traffic and large-scale construction that does not respect historic values. Planners and developers are struggling to recover the ideal as the region sprawls.

Many new developers following the "New Urbanism" model strive to recreate a place like these traditional towns. This neo-traditional development has been particularly successful in low-density areas that do not have a center, as in Mashpee Commons, created by filling in an old shopping center site to create a village from the ground up. The "urban village" theme is seen in several new development proposals, including the proposal by A.D. Makepeace Company for 6,000 acres in Plymouth, Wareham and Carver; Canalside Commons in Bourne; the South Weymouth Naval Air Station; and Somerville's Assembly Square area.

Assembly Square is a telling place to analyze the inner tensions of the quality-of-life ideal. Next to the proposed transit station will be an Ikea, Home Depot, Kmart, and Circuit City, with abundant parking to accommodate automobile traffic from Interstate 93 and other nearby arteries. On the one hand, residents like the sense of place and vitality found in urban villages. On the other hand, they want the modern conveniences and trappings of suburbia.

Without clear policy direction by planners and politicians, the pull of the suburbs—and their less distinctive streets, buildings, and parks—is likely to win out. In Massachusetts as in the rest of the U.S., retailers aggressively build "big-box" stores in outlying areas. At the same time, a process of "job sprawl" continues unabated. A recent Brookings Institute study showed that 75 percent of jobs were outside the core of downtown—increasingly in suburban office parks. In Greater Boston, the highest rates of job growth occurred along Interstate 495. While the region's "hub" of Boston and Cambridge gained jobs in the 1990s, the rate of growth was below the region as a whole.

The commute to work, whether from communities along I-495 to Route 128, or from the South Shore into Boston, is a lonely and drawn-out experience. It can mean two hours a day on increasingly clogged roadways—time that is not spent with family. Data from the 2000 Census shows that almost 75 percent of Massachusetts commuters drive to work alone—approximately on a par with the national average—and that car-pooling has dropped by a few percentage points over the last decade. Jack Clarke of the Audubon Society often cites the statistic that Americans spend a full two weeks' time in their cars each year. While no formal polls have been conducted, planners and environmentalists sense an increasing unhappiness with the current system for how most people live. Some of that unease stems from the isolation, boredom and placelessness of suburban settings. But the core of complaints begin with the time spent in cars. "When I think of how much time I've spent on Route 3—it's just not rational," says veteran land-use lawyer Don Connors.

The typical Massachusetts resident cannot do much to respond to prospect of increased time spent on roadways and in traffic jams. Following the advice of the noted social scientist Anthony Downs, many surrender. Car dealers in Massachusetts report an increase in DVD and video-screen installations in sport-utility vehicles and roomy, high-end sedans, along with other comforts of home, including refrigerators and cradles for handheld computers. People are making the most of the place where they spend so much time.

### *The Problem of 'Tax Farming'*

The financial needs of municipalities create a landscape that is, by necessity, at odds with the "urban village" ideal. Towns limited by Proposition 2½—the property-tax limitation law enacted in 1979—seek expansion of their commercial tax bases in a process known as "tax farming" or the "race for rateables." By soliciting large commercial projects and steering developers toward undeveloped land, these towns increase their ability to raise revenues for basic services like schools, police, streets, and parks. Strip malls and office parks are highly desirable revenue-producers for cash-strapped towns, especially in communities with mostly residential development. Commercial development pays the bills, does not burden school systems with new children, and provides convenient shopping available to time-strapped residents.

Office parks are even more desirable from a financial standpoint, all things being equal. Towns often lure companies with tax incentives and large plots of land to build campuses. Companies such as Cisco Systems, which proposed a 10-building, 350-acre office park campus in Boxborough, find it cheaper and easier to build on "greenfields" close to a major highway than

in urban centers with established infrastructure. Thus the landscape ringing Boston between Route 128 and I-495 is dotted with these office parks, inhabited by Cisco, EMC Corporation, and Lucent Technologies.

Unlike a Wal-Mart, office parks for high-flying technology companies generally have the added bonus of raising land values nearby. But whether cities drive big box or big office development, the only real down side is the strain on the local road system, which often just leads to political pressure on the state to widen roads or improve intersections and interchanges.

Towns only “tax farm” for commercial development. Residential development means more school-age children to be educated, which absorbs the revenues that commercial development generates. Many communities believe that new residents actually end up costing them money—as much as \$500 per household. In some cases, such as the South Weymouth Naval Air Station, area residents resist the prospect of new schoolchildren so strongly that they insist that any housing units be limited to retirees. In Wareham, the local newspaper fueled alarm about a wave of new students in the Makepeace project with a front-page cartoon that showing a half-dozen packed school buses rumbling out from a walled development—schoolchildren portrayed like a sinister onslaught that would overwhelm the local system. Ultimately, resistance to residential development in suburban communities worsens the state’s already chronic affordable housing shortage.

The focus on commercial development intensifies the fierce competition among municipalities, which in turn speeds building and paving. Strip malls and office parks built just 10 years ago have been abandoned—most prominently, in Mashpee—as developers exploit incentives to build new malls and office parks. The focus on commercial development also works against attempts to plan and manage growth on a more regional basis. It is every town for itself. Supporters of the proposed Canalside Commons mixed-use project in Bourne threatened to lead an effort to secede from the Cape Cod Commission, complaining that Bourne simply cannot compete with nearby Plymouth, which is outside the commission’s jurisdiction. The Chelmsford town manager has little incentive to work with Lowell to direct development to infill parcels there, to cite another example; he has a school system to worry about, and a new strip mall or office park will help.

The town-against-town competition for strip malls and office parks skews the market, setting rural, land-rich towns against each other and leaving most existing urban centers hopelessly out of the running. Urbanized areas struggle to compete even when they band together, as in the case of Telecom City, the Malden-Everett-Medford alliance for a 200-acre high-tech office-park complex. The downturn in the technology sector has damaged an

already difficult project; as of November 2001, the project had failed to attract a single tenant.

### *Inequity Among Cities and Towns*

The goal of redeveloping struggling older cities—the best-known efforts being in Lowell, guided by the late Senator Paul Tsongas and former Governor Michael Dukakis—continues to be elusive. Even as negative images of crime and blight fade away, Chelsea, Brockton, and Lawrence have not found the formula for making themselves attractive to residents and major employers. Employment is down 10 percent in older communities from 1950 to 1990, according to the Boston Society of Architects, while employment around Route 128 is up 200 percent for the same period.

Issues of image and equity arise in any analysis of urban areas. Seventy-five percent of the state's African-Americans and Hispanics live in cities, which are beset by high poverty rates, high school dropout rates, low test scores, and stiff competition for low-skill jobs. On a map, Brockton looks to be a well-situated urban center to absorb growth south of Boston. But its perceived drawbacks—from a reputation for crime to under-performing schools to a lack of cultural amenities—trump its advantages of location and infrastructure.

Efforts to improve amenities, such as waterfront redevelopment or improvement programs for housing stock, are sometimes criticized for fostering gentrification and displacing low-income population and immigrants. Simply put, residents in middle-level communities such as South Boston, Fall River, and New Bedford do not want the city transformed for new people; they want it improved for them. Local officials constantly walk a fine line between the desire to bring in new development and new residents with a desire to protect the interests of longtime residents.

Spatial relationships in commerce and transportation among the middle-level cities of eastern Massachusetts could help to form a functioning economic network, similar to the inter-relationship of medium-sized cities in the Netherlands, for example. In this way, medium-sized cities can help each other and feed off each other.

High-technology industries were seen until recently as an important engine for these cities. Worcester has staked its future on bio-tech and health-related businesses. Everett, Medford, and Malden have established a major office park called Telecom City to lure new high-technology businesses and incubate new high-tech firms. Tax incentives and brownfields initiatives—the cleanup of vacated industrial land in urban areas for development—have had some isolated successes. But the lack of a statewide program to steer growth to middle-level urban centers has left those cities struggling.

## Recent Experiences in Planning Greater Boston

In Greater Boston, “smart growth” usually means strategic efforts by specific cities and towns—usually alone, sometimes in cooperation with immediate neighbors—to enhance their centers and make connections to the rest of the region. By taking advantage of location and existing infrastructure, these communities hope to foster the kind of development that not only brings new economic and social opportunities, but also fosters a more coherent region.

### *The Boston Renaissance*

Boston remains the shining example of compact urban living, as working-class neighborhoods are transformed and massive redevelopment or “infill” projects—on the South Boston Waterfront or the air rights over the three-mile Massachusetts Turnpike corridor through the city—hold the promise of having more people live and work where the infrastructure is. But Boston continues to struggle with its planning process. Established residents express fear about too much growth, with concerns about the shadows cast by tall buildings, traffic congestion, and the evolution of the city into a playground for the rich. The tensions are seen throughout the city, from Allston-Brighton to Roxbury, but in three major areas—the South Boston Waterfront, the Mass Pike air rights corridor and the area around Fenway Park—the drama has played out with particular intensity.

***South Boston Waterfront:*** If the definition of “smart growth” is to build where infrastructure already exists, instead of out in the countryside, then the South Boston Waterfront offers the ultimate location for such infill development. The district’s “thousand acres” of vacant industrial land and parking lots constitutes some of the most prized real estate on the East Coast, because of Boston’s popularity and the area’s proximity to downtown and Logan Airport. Once home to foundries, wool and molasses warehouses, and miles of railroad tracks, the area is now occupied by a dwindling number of maritime and industrial functions. The waterfront’s potential for office, commercial, and residential development became clear in the 1990s. Billions in public investments—the \$4-billion cleanup of Boston Harbor, the \$14.4 billion Central Artery and Tunnel project, the construction of a \$700 million federal court house, and the \$750 million Transitway public-transit system—have transformed the area’s potential. The waterfront district will soon be connected to the airport, the Massachusetts Turnpike, as well as Interstate 93. It will also be connected to the rest of the city with a new transit line. New office buildings and streetscape improvements link the waterfront to Boston’s thriving Financial District.

Yet consensus on what this new neighborhood should become has been difficult to achieve. The Boston Redevelopment Authority hired the New York firm of Cooper, Roberts to create the Seaport Public Realm Plan, which suggested a close-knit street network and publicly accessible parks and sidewalks. But the Ted Williams Tunnel-I-90 connector, and the Congress Street interchange in the heart of the district, ensures a car-oriented feel.

Three projects with roots back to the 1980s have set the tone for development in the area—and the dilemmas inherent in neighborhood building in the age of the automobile. The J. Joseph Moakley Federal Courthouse, which opened in 1998, attracts thousands of lawyers weekly to the area and offers a little-used (and now closed) waterside park hidden behind a fortress-like structure. A \$700-million convention center, set on 60 acres off Summer Street, could bring hundreds of thousands of visitors to Boston annually, but will be accessed largely by taxi and shuttle bus because its front door will be a significant walk from the nearest Transitway station. Fidelity Investments' Seaport Hotel and World Trade Center office buildings, accommodate major public events and conferences but do not offer attractive public spaces or pedestrian areas around their bases.

In its Cooper, Roberts plan, the BRA sought to create a “24-hour” neighborhood that did not shut down at 5 p.m. like the Financial District, but development proposals thus far have included negligible residential components. South Boston leaders led by City Councilor James M. Kelly resisted the idea of hundreds of new residential units in the area, preferring commercial development that would provide jobs and so-called “linkage” funds—money for job training and affordable housing in the nearby residential neighborhood.

The South Boston Waterfront story has played out like a place that refuses to be planned. Competing constituencies and interests have continually clashed. The land is not controlled by one single entity but by several. At the state level, the Massachusetts Port Authority controls the 30-acre area known as Commonwealth Flats, and the Massachusetts Turnpike Authority has dictated land-use decisions tied to the Central Artery project. The federal government owns the new courthouse and property deeper in the district used for military staging and storage. Manufacturing, industrial and maritime interests also control significant parcels. The Gillette Company owns the key property in the area and exerts considerable “veto” power when proposals for major facilities arise. The areas also contains shipyards, the Black Falcon cruise ship terminal, and harborside auction sites. The most important players might be the major private property owners. The Pritzker family of Chicago, owners of the Hyatt hotel chain, plans a \$1 billion mixed-use



development on 16 acres on Fan Pier and enjoys the support of Mayor Thomas M. Menino. Frank McCourt, a lifelong Bostonian whose family has been involved in development for two generations, owns 25-acres and has proposed a new Red Sox stadium and extensive commercial development as well. Mall developer Steve Karp has announced plans for office, residential and high-end retail on the narrow slip of Pier 4.

Declining economic conditions have put the reclamation of the South Boston Waterfront on hold. Land is being prepared for the horizontal convention center, but so far the waterfront skyline consists of the new federal courthouse on Fan Pier, the World Trade Center office towers, and a giant ventilation building over the underground I-90 connector. Meanwhile, artists are being driven out of Fort Point district lofts by high rents and competing development plans. The industrial-era Old Northern Avenue bridge awaits demolition. The identity of Boston's new neighborhood remains very much in flux.

*Air rights development:* The Massachusetts Turnpike extension, like the Central Artery, was conceived and built in the 1950s when highways were seen as the city's salvation—ways to make it easy for suburbanites to breeze into town, park, and shop. Though built beside an existing rail corridor for the length of its three-mile run from Allston-Brighton to Chinatown, the sunken, eight-lane highway cuts a deep gash through the urban fabric of Boston that planners and developers have sought to re-knit for decades. In a city short on space, so-called “air rights” offered a creative strategy to “fill in” dead urban spaces with development.

The first such repair effort was the Prudential-Copley deck, over what is now referred to as the Prudential tunnel, which showed how lucrative development over the highway could be. The Prudential project of the 1960s posed a challenge of financing. Since Boston was not considered an attractive place to build, Mayor John Collins was forced to put together an extensive incentive package to attract the insurance company to the city.

Since then, proposals for air-rights development have been dogged by bad timing and controversy. Air rights proposals started to materialize in earnest during the reign at the Massachusetts Turnpike Authority of James J. Kerasiotes, who sought the revenue from selling and leasing land around and above the road. Kerasiotes saw development on Pike land as a source of much-needed revenue for the Central Artery, where cost overruns have been in the billions. But he has encountered resistance from community groups concerns about building shadows, traffic, and the architectural character of the city's neighborhoods.

During the Kerasiotes regime, the first and most controversial air rights development project emerged: Millennium Partners' proposal for a 57-story tower and residential and commercial complex at Massachusetts Avenue and Boylston Street. Coming from the west, the tower would form a new edge to the Back Bay skyline, followed closely by the Prudential, 111 Huntington Avenue, and the John Hancock building. Proponents like Northeastern University's George Thrush argued that the site was an appropriate place for density. But Back Bay residents protested. They said the tower would cast shadows on parks and playgrounds and overwhelm an already congested street network at Massachusetts Avenue, Boylston Street, and Newbury Street.

The Millennium proposal galvanized residents in Back Bay, Bay Village and the South End, who questioned why there was no rational plan or framework for air rights projects. The artists at the Fenway Studios, one of the nation's first artist-only cooperative which overlooks the site, won an early battle to alter the design to allow more light into their building. Ultimately, the legal authority to build the structure came into question. While the Massachusetts Turnpike Authority alone controls the air rights and does not have to adhere to Boston zoning, Mayor Menino was quick to remind state officials that the project required use of Boston land on the edges of the site—and hence, city approval. A memorandum of understanding between Menino and Kerasiotes spelled out a process that gave Boston the authority to review all projects—but not veto power.

In response to the calls for a plan, the Boston Redevelopment Authority worked with architect and planner David Lee to develop a consensus for air-rights development. The result was a document called "A Civic Vision for Turnpike Air Rights in Boston," which calls for the development of 23 air-rights parcels along the corridor. The architecture critic Robert Campbell of the *Boston Globe* praised the report as "a model of what such a planning study should be." The report calls for modest density along the 44 acres of air rights parcels through Boston, with no more than one new building taller than 15 stories on the Back Bay parcels near Massachusetts Avenue, taller buildings for housing in Chinatown, and respect for the historic and landmark districts throughout the Back Bay and South End.

The plan lends a sense of order to air rights development, but the neighborhood-by-neighborhood skirmishes over specific projects has continued, as developer Arthur Winn discovered when he pushed ahead with a mixed-use complex at Clarendon Street, which would link Bay Village and the South End.

As with the South Boston waterfront, air rights development has reached a period of inaction. Kerasiotes was fired by then-Governor A. Paul

Cellucci over financial improprieties in his management of the Central Artery project, removing the most aggressive proponent of air-rights development. The fighting over the shape and extent of development over the Massachusetts Turnpike lasted long enough that developers missed the economic cycle. Building over the highway is an engineering and financing challenge, so market and financing conditions have an exaggerated effect. The notion of “stitching back the urban fabric” remains a distant dream.

**Fenway Park:** When a team of investors headed by John Henry agreed to pay \$700 million to buy the Boston Red Sox in December 2001, Fenway Park, and an 80-percent share of the cable television New England Sports Network, it appeared to be the last chapter of a long and contentious battle over a proposal for a new stadium in Boston. Henry’s group vowed to renovate Fenway Park rather than build a new stadium in the neighborhood or elsewhere in the region. But in Boston politics, to paraphrase the baseball legend Yogi Berra, it ain’t over *when* it’s over. The Henry group provided a caveat to its vow to renovate Fenway Park, saying that it would seek a new stadium if renovation proved infeasible. Meanwhile, rival bidders for the franchise, who indicated they would seek a new stadium, sought to wrest control of the Red Sox from the Henry group in early 2002. Whatever the ultimate conclusion of the controversies surrounding the team’s ownership—and eventual plans for a new or renovated stadium—the history of the 1998 proposal for a new Fenway Park provides a cautionary tale for any new stadium proposal.

Fenway Park, the home of the Boston Red Sox since 1912, is one of the nation’s oldest and cherished sports venues and draws fans from all over New England and the U.S. Mayor Thomas Menino notes that fans from all over make pilgrimages to Fenway Park, but the Red Sox ownership convinced him to support its plans to build a \$600-million replica next door. But despite obtaining upwards of \$300 million in public subsidies for infrastructure and a garage, the team has struggled to finance its part of the deal. Community opposition—and doubts about the legality of the land-takings necessary for the project—undermined the air of inevitability that the proposal had when it was unveiled.

Activists in the Fenway neighborhood opposed the project from the start. Opposition is based on considerations of both heart and head. First, consider concerns of the heart. Neighbors complain that a larger stadium—45,000 seats versus the current 33,000—would overwhelm an area already congested with traffic generated by the Longwood Medical Area, Boston University and Northeastern University, museums, and commuters and visitors. Fenway has

experienced a renaissance as the Back Bay-style neighborhood it was originally designed to be and is anxious to avoid the blowout effect of a new park. At the same time, neighbors contend that the existing park is a historic treasure that should be saved and knit into a new “urban village” plan.

The Boston Redevelopment Authority has committed itself to taking 15 acres of private land under its eminent domain powers. But such powers to take land were originally granted the BRA to clear blight and otherwise revive declining areas of the city. The Fenway is thriving, not struggling, and legal experts like Herbert Gleason say such takings would be illegal. At the same time, opponents worry that an expensive new project would drastically affect real-estate costs all over the area. As Jane Jacobs and other planning critics have maintained for years, new buildings of all kinds increase rents and other local costs because they have to be paid every year; old buildings, which are already paid off, help to dampen the overall price structure of the area.

Neighbors have different ideas about how to improve the area, starting with the idea of turning Boylston Street into a grand boulevard. The new Fenway Park proposal rattled residents because it seemed to diminish neighborhood control.

The design of the stadium itself, by the Kansas City firm HOK and Cambridge-based Chan, Krieger, includes a sunken playing field, a replica of the high left-field wall known as the Green Monster, and improved access for deliveries, services, and crowd circulation. Portions of the current Fenway Park parcel would be sold off to help pay for the new project. The structure itself, similar to Camden Yards in Baltimore or Jacobs Field in Cleveland, will be pricey to build, but it is the cost of real estate that makes it prohibitively expensive. The triangular-shaped site bounded by Yawkey Way, Boylston Street, and Brookline Avenue, which would need to be acquired, is home to businesses that do not want to leave; the tab for the city to clear it could exceed \$200 million.

State-financed infrastructure improvements at the Yawkey Way commuter rail station and a small parking garage could contribute to the vitality of the neighborhood. But the perception has taken hold that a sports team would be getting a handout in this project, while neighborhood businesses and residents get squeezed. Until the new Red Sox ownership establishes itself, a new Fenway Park is not likely. Leaders behind San Francisco’s new Pacific Bell Park have said that the new ownership should count on a period of six years to develop and implement new stadium plans. Even though the siting of a new facility once appeared to be settled, new sites have become more viable. Leaders in South Boston, where a football stadium was rejected during the Weld Administration, have embraced a baseball stadium and one of the

bidders for the Red Sox, Frank McCourt, has said he would use his land there for a new facility. Somerville and Revere are mentioned as other potential sites.

**Other projects:** Taken together, the controversies over the South Boston Waterfront, Mass Pike air rights, and Fenway Park paint a portrait of semi-paralysis for the city of Boston. Established residents are skeptical and defiant, and the BRA and the mayor have struggled to articulate a vision for the changing face of Boston. In the absence of a citywide consensus on the urban form, the prevailing response is a resistance to more density, in any form.

Despite this, Boston experienced a significant building boom in the period roughly from 1996 to 2001. Individual projects flourished and the skyline expanded. One of the most dramatic additions to that skyline is Millennium Place on lower Washington Street, built by the same New York-based Millennium Partners firm that proposed the tower over the Mass Pike. The gleaming skyscraper rises up where the Combat Zone, Boston's red-light district, once flourished. The building houses luxury condos, a Ritz-Carlton hotel, and the L.A. Sports Club. The area from lower Washington Street to Downtown Crossing even has a new, trendy name: the Ladder District, named for the small streets that run like rungs between Tremont and Washington streets.

After years of fits and starts, One Lincoln is the most recent addition to the core Financial District. Moving west, the office building at 10 St. James, an infill project also financed through New York-based Millennium Partners, is only the beginning of extensive redevelopment plans for the Park Square area. Then there is 111 Huntington Avenue, with its distinctive spiked dome, adding significant office space, hotel and retail to the area on the back side of the Prudential Center. A remarkable "filling in" is occurring on Washington Street in the South End, between East Berkeley Street and Massachusetts Avenue, as loft and luxury housing rises up on either side of the once-desolate street.

Several other major commercial projects, many of which could transform the look of the city, are on hold, such as the Hines proposal for the city's third-tallest building over South Station. The commercial market is somewhat less than robust due to the post-September 11 recession and cut-backs in finance and high-tech. For years, Boston has been trading off with San Francisco for the honor of having the nation's lowest vacancy rate on Class A office space. Now both cities have cooled, and Boston's vacancy rate has begun to rise; there is not yet a glut of space, but industry observers say the building boom is over. Financing for hotels in particular has dried up, industry analysts say.

The residential market, meanwhile, has been so strong in Boston since the 1990s that a slowdown is expected to be inevitable but more subtle. Continued interest in city living, led by aging baby-boomers and young professionals, keeps demand high while the overall supply of housing in Boston remains limited. The overall number of housing units in the city increased by only 500 from 1990 to 2000. Some moderation is expected because of the economic downturn and wariness of cities in the wake of the September 11 terrorist attacks. But home prices of half a million dollars are common in established areas such as the North End, Leather District, Bay Village, South End, Back Bay, Beacon Hill and Charlestown, as well as select parts of South Boston, Dorchester, Roxbury, and Allston-Brighton. Jamaica Plain, the neighborhood of choice for young professionals, is a leading case study in gentrification; homes that once sheltered three families are being renovated to accommodate just one. “If we fill cities like this, it won’t be infill under the smart growth model,” says Stephanie Pollack, attorney for the Conservation Law Foundation. “A housing stock that once served 750,000 people is full at 600,000 people.”

### *The Challenge of Assembly Square*

For years, developers and planners have proposed projects for the 145-acre area between the Mystic River and Interstate 93 in Somerville, site of the former Ford automobile assembly plant. The area is currently home to big-box retailers like Home Depot, Circuit City, and K-Mart and a cinema complex. A proposal for an Ikea home furnishing store helped spark a community push to build a mixed-use, urban village-style project that incorporates parks and a link to mass transit. The Orange Line runs right by the property although there is no station directly at the site. Somerville Mayor Dorothy Kelly Gay has been caught in the middle, in dire need of the commercial tax revenue that the big-box stores generate but mindful that Assembly Square has great potential as a more dynamic site because of its proximity to downtown Boston.

A possible compromise is in the works. The city recently issued requests for proposals for the parcel of city-owned land known as Yard 21, adjacent to the Orange Line tracks. This land is seen as a prime spot for “urban village” style development, which would co-exist with the big box retail. Two companies—Cathartes Investments and Gravestart-Taurus, the developers for the Ikea proposal—submitted proposals. In November 2001, Gravestart-Taurus won a provisional designation for the job. The plans call for a major new transit station, which could be privately built—a first for the Commonwealth—as well as a mix of office space and high-density residential

units. If developed in this way, Assembly Square would have a split personality of sorts—dense, urban development near mass transit at one end, big-box and parking lots at the other. Activists and planners have worked to develop strategies to reduce auto impacts; one proposal would require that Ikea make deliveries of all its sales so that customers do not need to use their car to pick up purchases. The Mystic Valley Task Force, a well-organized citizens group, vows to keep the pressure on in what many Somerville residents regard as their own version of the South Boston Waterfront. But amid economic uncertainty, political and business leaders feel they have a bird in the hand with the proposed commercial development. The area already has the feel of suburban shopping-mall development; the city has thrown its support behind a proposed Super Stop and Shop on the other side of I-93 from Assembly Square, which residents have also opposed. The question is whether more mixed style of development can gain a foothold and become, over a period of years, the dominant style. For the moment, the economic downturn could thwart both the proposed office space in the “urban village” section and the Ikea outlet in the “big box” section.

### *Experiments in small-scale regionalism*

Cities and towns in several parts of the Commonwealth have begun to band together to encourage and manage growth—not so much to specifically combat sprawl, but because impacts of development spill over municipal borders and often it makes economic sense to coordinate projects.

Medford, Malden and Everett each contributed land to create Telecom City, a \$590-million high-technology office park. These towns have always competed against each other, on the high school football field and in business development. But in 1996 they formed an alliance and secured state and federal funding to develop the vacated industrial land. Significantly, the plan includes an innovative revenue-sharing system, so the three cities share equally in tax dollars regardless of where the development is actually sited. A regional, coordinated transportation plan is also integral to the project, which has the advantage of close proximity to both Logan Airport and downtown Boston. The cities are working together to create bike paths, pedestrian walkways, and park land on both sides of the Malden River. The project was the victim of unfortunate timing, given the slowdown in the high-tech sector, however, and there are no tenants currently lined up for the first phase of five office buildings, set to break ground in 2002.

Other communities have banded together in Southeastern Massachusetts to manage large development projects. A.D. Makepeace has proposed a 6,000-acre plan for 3,500 or 6,000 units of housing (depending

on whether the project would get zoning variances) and 3 million square feet of office, retail, hotel, and golf course development. That plan, which straddles the towns of Wareham, Plymouth and Carver, would be the largest single development project in New England history. The state encouraged the three towns to work together on the approval process and provided funding for a tri-town task force. Each town had different concerns, such as the impact on school systems, water, sewer, and traffic. Makepeace sought zoning changes to build more densely by clustering buildings and preserving 70 percent of the site as open space (including the golf courses). Environmentalists entered the fray, saying the land was ecologically sensitive and should not be developed at all. In the final analysis, the three towns did unite—but to oppose the project outright. Makepeace withdrew its proposed new zoning bylaw before a town meeting vote in the three communities.

Six communities—Boston, Cambridge, Somerville, Brookline, Everett, and Revere—have banded together to form the so-called Urban Ring Compact. The Compact is analyzing economic development and transportation needs for a corridor that might be the location of a new circumferential transit line. The Urban Ring would create a new “rim” that connects the spokes of Boston’s hub-oriented transit system. Such a rim could offer a valuable new transit option for riders of the Red and Green lines and many bus lines as well. Although many transit activists are calling for a light rail system, others say a bus system would be more practical given the costs and need to reconfigure streets and buildings. A dedicated right of way—separating car traffic from the bus line—would make the trip quicker than current bus service.

The I-495 Initiative promises to set the framework for regional cooperation all along the highway corridor, or at least large stretches of it. The Metropolitan Area Planning Council has convened communities along the high-growth corridor to consider the wide range of traffic and infrastructure issues that accompany development. One of the central issues in early discussions was the supply of water for growing communities.

Regional planning remains an uphill battle all over the Commonwealth, as staunchly independent New England towns cling to their independence. The Metropolitan Area Planning Council and the Massachusetts Technology Cooperative sought to portray “liveability” as an economic imperative; attracting employees is difficult if they face high home prices and daily traffic jams on the commute to work. But many major businesses and developers remain unwilling to substantially change the way office parks are developed.

The expected surge of development interest in Southeastern Massachusetts prompted the creation of the Southeastern Massachusetts



Vision 2020 Initiative, an attempt to get a handle on growth in some of the last undeveloped rural areas in the state. The idea grew out of a 1996 studio led by Robert Yaro at Harvard's Graduate School of Design. To keep tabs on development and analyze regional impacts of large projects, the studio proposed creating the so-called Mayflower Compact. The Compact is a voluntary organization of 50 towns to respond to development proposals town by town. The Compact enjoys none of the project review powers of the Cape Cod Commission, but poses a bold challenge to towns. The decision to join the Compact passed by narrow margins in most town meeting votes, and four towns have still not signed on.

The Cape Cod Commission, the commonwealth's model for regional planning, has also encountered resistance. Political and business leaders in Bourne have threatened to seek legislative action to secede if the Canalside Commons, an expansive mixed-use development on vacant land at the foot of the Bourne Bridge and off the Bourne rotary, is denied. The Bourne leaders' logic is that Bourne, the gateway to the Cape, does not share the same development issues of communities in the middle and outer reaches of Cape Cod. Bourne does not consider itself a part of the region, at least not enough for its development to be restricted by an outside political body. The stand-off underscores the difficulty of coordinating development when centuries-old political boundaries require them to look out for themselves first.

Most planners say that the toughest challenge is to convince large cities and suburbs to understand their common destinies and to formulate policies to grow together. But the New Mayflower Compact, Makepeace, and Cape Cod Commission experiences indicate that even like-minded, comparatively homogeneous communities have a tough time working together—unless the agreed-upon policy is fighting growth entirely.

### *Experiments in Financing*

At a time when cities and towns receive less money for infrastructure and development from federal and state programs, and as the cost of such investments has skyrocketed, local governments have worked to forge alliances with the private sector. Well-established public-private partnerships include business improvement districts and tax-increment financing schemes. A BID allows retailers to pool resources to provide security and maintenance for a specific geographic area. TIF allows private developers to borrow against increased revenues expected from development to finance capital projects like sidewalk repairs, building plazas, and the like.

Public-private development is common in other parts of the country. In California, the Disney Company and the city of Glendale have teamed up to

transform an aging industrial park into the Grand Central Creative Campus. In New York City, public-private agreements resulted in the redevelopment of Times Square and the revitalization of Bryant Park. In Boston, however, such partnerships are viewed with suspicion. Boston's primary model for public-private collaboration is Post Office Square, where in the 1980s civic leaders led by developer Norman Leventhal tore down an old parking garage, put the structure underground, and built a park on top with parking revenues. The space has become a case study for park revitalization nationwide, winning 20 planning and development awards. The garage generates approximately \$8 million a year; that money pays the debt service, taxes, and the park's maintenance costs.

Since then, other attempts to retool the urban landscape by harnessing private-sector funds have been met with concerns about the privatization of public space and "giveaways" to private developers. The city does not budget enough money to pay for extensive new parks and public spaces, but many residents resist handing over that responsibility to private entities. Activists viewed skeptically a proposal to create a TIF district in the Fenway. Harvard University's financing of master planning for Allston-Brighton has brought charges of a conflict of interest. Elsewhere, the travails of public-private development in Boston can be vividly seen in four major areas: the South Boston Waterfront, City Hall Plaza, Downtown Crossing, and the surface restoration of the suppressed Central Artery.

***The South Boston Waterfront:*** When the Chicago-based Pritzker family proposed a \$1-billion complex of hotels and residences on 16 acres at Fan Pier, critics immediately attacked. The Conservation Law Foundation, generally supportive of such dense development near transit stations, demanded that the size of the project be reduced and parks be expanded. The call was seconded by the editorial pages of the *Boston Globe* and by nearby landowner Frank McCourt, who threatened to build higher buildings if the Pritzkers were allowed to build to just under 300 feet in their tallest tower. The amenities offered by the Pritzkers and local partners Spaulding and Slye—a fishing pier, a tidal-pool park, a kayak marina, a skating rink—were dismissed as the first offer at a bargaining table. But the urban design scheme had a rationale. The developers rejected a large waterfront park because they thought it would be windswept and uncomfortable, especially in the winter months. They proposed parking on the streets to encourage a sense of street life and vitality, but were forced to eliminate the streets entirely, in favor of mall-like plazas. Activists like Vivien Li of the Boston Harbor Association remarked that the public's suspicions were fueled by experience. Three examples support her

argument: locked gates block many parts of the city's Harborwalk, the Long Wharf Marriott barred access to restrooms in violation of the original development agreement, and the new federal courthouse is completely cut off to pedestrians.

**City Hall Plaza:** The redesign of the windswept, six-acre brick plaza—barren in the winter and baked in the summer—has had a long and tortured history. In the mid-1990s Mayor Thomas Menino established the quasi-public Trust for City Hall Plaza to raise money for the redesign and redevelopment of the plaza. The Trust proposed a standard public-private scheme: a boutique hotel to be sited between City Hall Plaza and the John F. Kennedy Federal Building's low-rise section and an underground parking garage. Both would generate the revenue for improvements on the rest of the plaza, including a winter garden and new MBTA station. The plan was greeted with howls of protest. Activists charged that Menino was trying to privatize public land and give the developer a sweetheart deal. The hotel-and-garage plan was abandoned, and a more modest redesign is underway, using city, state and federal funds. A new colonnade along Cambridge Street, part of the \$2.7 million city-led first phase, was widely criticized for being too expensive and not making a difference in the look and feel of the plaza. The federal government has yet to follow through with promises to redesign its corner of the plaza, and the MBTA is proceeding slowly with plans for station reconstruction.

**Downtown Crossing:** The retail area along Washington Street from City Hall Plaza to the Opera House has for years had a tattered appearance. In the early 1990s major storeowners sought to do something about that: a proposed Business Improvement District, which would give private entities expansive responsibilities for security and maintenance. The City Council passed the proposal in 1998. But again, critics said the Downtown Crossing BID was an abdication of responsibilities by the city, and that handing over so much power to storeowners was tantamount to privatizing public space. There was a racial component to the debate because Downtown Crossing attracts a particularly diverse population, much more so than the Newbury Street retail zone. Other cities are grappling with issues of democracy and public space; as in Bryant Park and Battery Park City in Manhattan, the concern is whether private security guards can shoo away a homeless person or anyone deemed to be undesirable. Proponents of the BID for Downtown Crossing say the strategy is the only way to spruce up the retail center, in the absence of a major intervention funded solely by the city. The proposal was stopped in its tracks, by inaction at the state Legislature, which has to sign off on the plan even though it is entirely a Boston matter.

***Surface restoration of the Central Artery:*** With the completion of the \$14.4 billion Central Artery project, 10 lanes of highway will be moved underground and Boston will gain the use of about 30 acres of land that has lain in the shadow of the highway since 1951. Deciding how to develop this land has been an even more tortured process than the redesign of City Hall Plaza. The project, known as “surface restoration” and more recently as the proposed Rose Kennedy Greenway, is likely to become another public-private development debate.

Cost overruns at the Big Dig have ruined any chance for major public investment in surface restoration. Neither the state nor the city has committed the money necessary to create a new public space along this corridor; the two entities have continually warred over control of the project. Privately funded proposals for modest development on the surface parcels will inevitably be greeted with wariness. The Artery Business Committee has played a major role, led by the careful diplomacy of Richard Dimino, and the redesign of the Dewey Square piece of the surface artery is seen as a good model for public-private cooperation. But the longterm role of the private sector in revitalizing the area remains undetermined.

Funding strategies are inevitably connected to design questions. Under an agreement signed by then-state environmental secretary John DeVillars, the corridor must be 75 percent open space. But the definition of “open space” remains fuzzy—some say it means only that the space be open for public use, others say it must be park land—and a three-to-one ratio of parks to development is considered flawed from an urban design standpoint. The Boston 2000 plan devised by Stephen Coyle, BRA director under Mayor Raymond L. Flynn, has been criticized as a long green snake that mimics the highway corridor—potentially every bit a psychological barrier to pedestrians as the highway. Without a doubt, the design will reflect the difficult dilemmas of financing.

### ***The Importance of Community Process***

In the years after urban renewal projects of the 1950s and 1960s—when one-third of the city’s land was targeted for demolition and redevelopment—Boston’s citizens created one of the most vibrant traditions of grassroots activism in the nation. Officials now recognize the importance of community input into a wide range of planning issues. But through the 1980s and 1990s, the community process has been as controversial as any of the proposed development projects themselves.

A climate of distrust persists between planners on one side and residents on the other. Many activists feel that despite an established format for public hearings, their views are rarely incorporated into long-range planning

strategies. Shirley Kressell, founder of the Alliance of Boston Neighborhoods, calls it “yelling it your television.” City officials, meanwhile, believe that citizens exert a powerful influence over development proposals and needlessly hold up many projects while haggling over plans that are submitted and re-submitted. A line often heard at the BRA offices in the late 1990s was: “Our biggest product is process.”

Kressell and other critics say the city needs a comprehensive, longterm planning process, but that the goals of planning are undermined by the BRA’s responsibility for both planning and development. But when it comes to individual projects, neighborhood groups often have a narrow agenda that does not consider citywide needs. The response to new projects falls along familiar “not in my backyard” patterns. Even the Leather District—as urban a neighborhood as can be found, populated by architects and others knowledgeable in the virtues of density and urbanism—has taken a hard line against tall buildings. Activists there demanded that a new building by Rose Associates drop from an offending 15 stories to 12. The NIMBY syndrome can be especially problematic in neighborhoods where proposals to build new housing are thwarted in the name of open space.

Outside of Boston, community involvement can have unintended consequences. In Cambridge, for example, the Northpoint proposal has provoked bitter fights over the appropriate scale of development. The Northpoint site, located between the Green Line and the Orange Line on an obsolete railyard in Cambridge, is by any objective measure a perfect place for density. It is located close to public transit, a major highway, and downtown Boston. But East Cambridge residents do not want any more traffic near their streets. And Cambridge’s participatory rezoning process has led to a significant down-zoning of this and other areas even on the Red Line. The Northpoint developers—Guilford and Spaulding and Slye—can now build only a fraction of the housing that would make sense from an urban-planning standpoint for this parcel so close to the urban core.

In the Telecom City project, the participation of residents close to the 200-acre site set severe limitations on the project that may prove fatal. Office buildings surrounded by parkland was the only acceptable outcome for abutters. Many residents, opposed to an “influx of yuppies” in the mostly working-class districts of Medford, Malden, and Everett, eliminated housing as an option. Business owners near the site opposed new restaurants or stores in the development, eliminating mixed-use development as an option. Planners were forced to put all their eggs in the basket of office space for the high-tech sector, which of course has suffered a major downturn. If the project included housing or retail, the area might have a better prospect of success.

Community participation often ends up creating exclusionary policies, as well. At the South Weymouth Naval Air Station redevelopment site, the neighboring towns of Weymouth, Abington, and Rockland were steadfast in their opposition to a large residential component in the complex. In the end, the towns consented to a modest number of housing units—but limited to seniors, so there would be no school-age children to burden local school systems. That made sense for Weymouth, Abington and Rockland, but does nothing to improve the jobs-housing imbalance in the region.

### **The Actors**

The institutions shaping planning and development in Massachusetts come from the state's complex political history since World War II. Governors have followed different paths and philosophies, from highwayman-turned-highway-slayer Francis Sargent in the 1960s and 1970s, to state planner Michael S. Dukakis in the 1970s, highway and airport advocate Edward King in the 1980s, a pro-business Dukakis again in the mid-1980s, and then the *laissez-faire* William F. Weld and Paul Cellucci in the 1990s. Though Massachusetts is considered progressive and innovative on public policy, the state's reputation as "Taxachusetts" still stings, and businesses guard against any broad new public programs or regulations. Massachusetts may face the same growth-management challenges that prompted Maryland to adopt a comprehensive planning strategy, but the Massachusetts political climate fosters caution.

Many growth-management advocates hoped that Governor Jane M. Swift would adopt the cause, perhaps even re-establishing an office of state planning. Former Governor A. Paul Cellucci gave the subject of "open space" some attention before leaving to be Ambassador to Canada, and the opportunity was there for Swift to be engaged on a subject that is central to constituencies along I-495 and in Southeastern Massachusetts. Swift has made moves that have pleased environmentalists, on the Greylock Glen project and on factory emissions. The Community Preservation Initiative and Executive Order 418 have moved ahead under Swift, but the Secretary of the Executive Office of Environmental Affairs, Robert Durand, said in a recent interview that a "top-down" growth-management policy would never work in Massachusetts.

Somewhat more behind the scenes but an important player is Jay Wickersham, who runs the office for the Massachusetts Environmental Policy Act (MEPA). Wickersham not only has the power through MEPA to approve or reject major development projects, but he is also instrumental in enforcing existing public policies that might encourage "smart growth." The EOEPA, however, faces severe limits on what it can do.

Wickersham has encouraged the Executive Office of Transportation and Construction, led by Secretary Kevin Sullivan, to consider land-use issues in transportation policy. The Massachusetts Highway Department is by many accounts still steeped in the expansive, pro-car culture fostered by James J. Kerasiotes, who reversed the public-transit bent of his predecessor, Fred Salvucci. The Massachusetts Bay Transportation Authority has many opportunities to influence development patterns—by encouraging dense, mixed-use development near transit stations, for example. But on that topic, MBTA planners say they wait for localities to suggest TOD to them, and do not play an active role.

Two other state agencies have extensive influence on development and are exempt from local zoning: The Massachusetts Port Authority and the Massachusetts Turnpike Authority. Massport, led by Virginia Buckingham, was hired to push for construction of a new airport runway to better manage air traffic at Logan Airport. The Massachusetts Turnpike Authority manages the Central Artery project and the related challenges of surface restoration and air-rights development.

The Mass Pike Authority has experienced great turmoil in recent years. It was chaired by James Kerasiotes for four years (1996–2000) and then Andrew Natsios for one year (2000–2001). After Natsios left for a job in the Bush Administration, the authority's strong-chairman model was replaced by the position of chief executive. Former U.S. Army Corps official J. Richard Capka was named to run the Masspike in 2001. The authority's most urgent job is paying for the Big Dig, which includes revenue from air-rights development on the Central Artery corridor and the Mass Pike proper. The composition of the turnpike board could be changed to give the Legislature and the City of Boston a presence in deliberations.

Taken together, four state agencies—the MBTA, the turnpike authority, Massport and the Massachusetts Highway Department—control some of the largest and most influential development projects in the state.

The Massachusetts Water Resource Authority influences land-use policy by providing communities with water and sewer service and infrastructure. The authority provides a strong example of the power of cooperation and could produce smart growth by directing commercial and residential development away from communities with the necessary infrastructure. But some communities consider the MWRA both a blessing and a curse. Joining the MWRA system means increased capacity—not only for specific projects that need it, but for new proposals that communities might not want. In the meantime, the idea of “keeping water local” has become more popular—recharging local underground water supplies or aquifers, instead of shipping

all storm and sewer discharge out to sea via the Massachusetts Water Resources Authority.

Sources of capital for innovative development projects are limited in Massachusetts, but a major player is clearly Michael Hogan, head of the Massachusetts Development Finance Agency, which operates like a public-investment bank and was instrumental in the banding-together of towns for the Fort Devens redevelopment.

Legislative figures who have expressed interest in sprawl and smart growth include Senate President Thomas F. Birmingham of Chelsea, a likely candidate for governor in 2002, and state Senator Marc Pacheco of Taunton. Birmingham recently proposed putting 15 percent of any budget surplus towards the purchase of conservation land, and Pacheco filed a bill that would create a \$35-million fund for municipalities to do better planning. Other active lawmakers include state senators Mark Montigny of New Bedford) and Pamela Resor of Acton, who both supported Birmingham's measure, and David Magnani, who has shown interest in revenue-sharing systems for towns and regional planning along the I-495 corridor.

Local leaders, from big-city mayors to selectmen, town managers and planning boards in smaller towns, face mounting pressure to coordinate better planning and development. In Boston, Mayor Thomas Menino has struggled to balance development interests with the social concerns of the neighborhoods. The Boston Redevelopment Authority, headed by Mark Maloney, is undergoing a steady but gradual overhaul. The addition of Rebecca Barnes as chief planner has given new energy to the authority. Other major policymakers in Boston include mayoral aide Peter Welsh; former chief of staff David Passafaro, who continues to be a personal advisor to Menino; Department of Neighborhood Development chief Charlotte Golar-Richie; and planners in the Mayor's Main Streets 19 programs. Active city councilors on development issues include James Kelly of South Boston, Paul Scapicchio of the North End, Michael Ross of Back Bay, and Michael Flaherty of South Boston.

In cities and towns outside of Boston, leaders are taking greater interest in development issues. Marlborough Mayor William Mauro has been active on land-use and transportation issues including the challenges of the reverse commute. Fall River Mayor Edward M. Lambert has capitalized on marketing that city, where homebuyers are snapping up homes close to the city center in anticipation of the extension of commuter rail. Weymouth Mayor David Madden has demonstrated a quick grasp of planning issues and was the first politician to come out in opposition to the Mills Corporation plan for a mega-mall at the South Weymouth Naval Air Station.



Somerville Mayor Dorothy Kelly Gay has similarly plunged into urban planning; the Assembly Square project and surrounding area has been one of the top issues facing her administration. Beyond the chief executive, there is an increasing sophistication among town planners in Massachusetts as well, demonstrated by the likes of Joseph Walsh in Salem. Burlington town planner Anthony Fields played a prominent role in the regional initiative linking Burlington, Reading, North Reading and Wilmington to study water issues.

Development and real estate leaders are increasingly aware that they are being closely watched. Thus they work tirelessly to promote community relations, to demonstrate they embrace the growing consensus for classical urbanist approaches. Len Cubellis in Bourne and John Drew of A.D. Makepeace promote their projects as master-planned communities based on the clustered, urban-village model. The terms “smart growth” and “New Urbanism” are brandished to show sensitivity to concerns about sprawl. In Boston, Millennium Partners, Beacon Properties, the Pritzkers, and local partners Spaulding and Slye and McCourt have all invested heavily in community relations.

The major real estate players are Meredith & Grew/Oncor International; Insignia/ESG; CB Richard Ellis/Whittier Partners; Cushman and Wakefield. Edward Shanahan, chief executive officer of the Greater Boston Real Estate Board, has been a strong voice for regulatory reform and market-based approaches to housing and community development. David Begelfer, co-chair of the I-495 Initiative, is chief executive of the National Association of Industrial and Office Properties.

Community Development Corporations—also known as CDCs—play the critical role of directing neighborhood development. Key players include Marc Draisen, executive director of the Massachusetts Association of Community Development Corporations, and Michael Gondek, who runs the Community Economic Development Assistance Corporation (CEDAC), which makes grants and provides technical assistance to CDCs all over the state. CDCs face the difficult challenge of balancing the needs of neighborhoods with the financial realities of development. One creative approach to such a balancing act is the Davenport Commons complex, where the Madison Park Development Corporation created housing for Northeastern University students and low-income families from Lower Roxbury on a stretch of Columbus Avenue.

Universities have long been major real estate players in the city and in suburbs. The newly installed president of Harvard University, Lawrence Summers, is focused on campus expansion plans in Allston-Brighton. The Massachusetts Institute of Technology, under president Charles Vest, has

built an array of on-campus buildings and research facilities in Kendall Square. Boston University, Boston College, Suffolk University, and Emerson College all have land-use plans that affect the city and the region. The same is true of the area's medical institutions, including Massachusetts General Hospital, Beth Israel Deaconess, the New England Medical Center, Boston Medical Center, and Brigham and Women's Hospital, in the booming Longwood medical-center area.

Universities, colleges, and medical institutions have long been attracted to Greater Boston and have grown up with some towns from their founding. Cities on Boston's periphery see great value in those institutions, as part of a balanced economic development strategy; colleges and universities tend to be recession-proof. Because they need as much land as they do, as well as spin-off amenities such as cafes and bookstores, they are significant players in land-use decisions and development trends (locating downtown or on the edge of town, for example). The tax-exempt status of these nonprofit institutions has fostered great controversy, however. Harvard's acquisition of a major parcel in Watertown—where millions in public money were required for site cleanup—has reduced the town's tax revenue potential.

Religious institutions also play an important role in development and land use. The Religious Land Use and Institutionalized Persons Act gives churches wide latitude in their capacity to build and develop in any manner they choose. A recent controversy in Belmont, concerning the construction of a major Mormon church and towering steeple, is expected to be repeated across the commonwealth as religious organizations test the limits under this law. In a modest way, the landscape will be affected wherever religious organizations are involved in real estate and development. The Roman Catholic Archdiocese of Boston has played a major role in development of affordable housing, but is also criticized for not making excess properties available for public purposes. In some communities, churches have been the savior of decayed old districts. Parishioners come from all over the region to attend predominantly black churches in Boston's neighborhoods of Roxbury, Dorchester, and Mattapan.

Major employers like Cisco, EMC, Lucent Technologies, 3Com, and Sun Microsystems have a significant impact on the region's landscape. Fast-growing companies prefer large office parks on undeveloped land because they seek large amounts of contiguous space, close to a major highway. Rural communities along I-495 are eager for the tax revenues that these companies generate; by responding to enticements and incentives offered by towns such as Boxborough, these companies end up intensifying the spread-out characteristics of the region.

Community and citizens groups are increasingly savvy, and have become adroit in making their case with the media. In Boston, the Alliance of Boston Neighborhoods has been a tireless critic of major development projects. The Boston Harbor Association, led by Vivien Li, keeps the pressure on developers to provide public access at waterfront locations and to respect industrial and maritime interests. And perhaps no voice on planning and development has been stronger than those of environmental groups, who have taken up the battle against sprawl as a leading cause. The leading organization for environmental issues is the Conservation Law Foundation, led by Douglas Foy, Stephanie Pollack, Seth Kaplan, and Bennet Heart. The CLF is developing a for-profit arm to generate revenues and demonstrate the viability of green building and production. The Massachusetts Audubon Society has not only fought for preservation of open space statewide but also created the new Boston Nature Center in the heart of the city. Other important organizations include the Environmental League of Massachusetts, the Massachusetts Public Interest Research Group, the Nature Conservancy, and the Trust for Public Land.

One professional organization—Boston Society of Architects (BSA)—stands out as a regional leader on smart growth and a variety of other issues. The BSA coordinated a one-year community-based effort to spark debate and policy making in eastern Massachusetts. The Civic Initiative for a Livable New England, steered by Rebecca Barnes before she left for the BRA, was coordinated by David Dixon, Wig Zamore, and others. The BSA is the largest professional organization for architects in the U.S. and sets the tone for public debate in Greater Boston through its networking, events, and magazine.

The Metropolitan Area Planning Council, led by David Soule, is in the process of reinventing itself and collecting community input for a new regional policy framework. Steve Smith, head of the Southeastern Regional Planning and Economic Development District, is quietly leading efforts for to build regional cohesion in that fast-growing part of the state. The Cape Cod Commission, led by executive director Margo Fenn, continues to be a model for a regional planning organization with teeth. John Schneider, executive director of the Metro West Growth Management Committee, is a leading policymaker with expertise in the area between 128 and 495 on both sides of the Mass Pike.

## **Policy Options for Planning Greater Boston**

Since 1970, 16 states, dozens of regions and thousands of municipalities have adopted broad plans to control the rate, location and appearance of urban and suburban development. Maryland, Oregon, Washington, and New

Jersey are well-established growth-management regimes; other states instituting statewide “smart growth” policies include Tennessee, Minnesota, Utah, Wisconsin, and Pennsylvania. High-growth states such as Georgia, Florida, Texas, Arizona, and California have not been yet been able to coalesce around a growth-management strategy, but in New England, Connecticut, Rhode Island, and New Hampshire are all considering major growth-management initiatives to guide development for the future.

The spectrum of growth-management techniques starts with Portland, Oregon’s regional governance structure and urban growth boundary, where no building is allowed beyond an established municipal border, so development must “fill in” at the more urbanized core. At the middle range of the spectrum are the consolidated city-county governments, regional councils, and Metropolitan Planning Organizations (MPOs), all of which establish a regional approach to planning and development. And at the other end of the spectrum are the public-private initiatives such as those being tried in Utah, and civic initiatives or grassroots campaigns that operate with no official authority.

It remains to be seen where Massachusetts ends up on that spectrum—if it is on the spectrum at all. Still, public officials, civic leaders, planners, architects, and academics have all begun to explore different policy choices for planning on a regional basis in Massachusetts. Those choices fall under five rough headings: comprehensive policy, strategic action, toolkits, and removing barriers to development that would strengthen the region’s vital centers.

### *Comprehensive Policy*

Growth management regimes throughout the country have a basic similarity. Development in existing urban areas is encouraged, with incentives, rewards, reduced fees and a smooth permitting process. Development where there is no infrastructure gets nothing and indeed is charged more. It’s a classic carrot-and-stick method. That is the kind of state intervention that the most aggressive smart growth advocates are calling for in Massachusetts.

A recent report on development, fiscal capacity, housing, and race in Greater Boston boldly declares that the only viable policy response to the problems of the region lie in creating a new system of regional governance. *The Boston Metropatterns* report by the Metropolitan Area Research Corporation states: “Without a governance structure that provides the power to shape regional land use and public investment patterns, the ability to effectively address regional problems is greatly reduced.” The report acknowledges the difficulty in overcoming political and cultural barriers to regionalism. But in response to that concern, the report states simply: If other regions can do it, so too can Greater Boston.

Advocates of regionalism disagree about the proper instrument for bringing about coordinated land-use planning and development on a metropolitan scale. Former Governor Michael S. Dukakis, noting the small geographic scale of the Commonwealth, argues that state offices and policies can provide the leadership and administrative coordination necessary for fulfillment of a regional vision. David Soule, the executive director of the Metropolitan Area Planning Council, argues that the MAPC or some new regional body needs to gain the authority to coordinate important land-use policies and capital investments. Such a regional body would have substantial control over development, transportation, housing, and the environment.

*At the state level:* A statewide smart growth program, modeled after the Maryland plan, would have to include an oversight office. Maryland's Office of Strategic Planning, led by a cabinet-level secretary, provides comprehensive broad research, policy-making, oversight, and implementation functions. The notion of a state planning office has become moribund since the first Dukakis Administration in the 1970s. But some argue that the tools to promote smart growth are already at the state's disposal—from MHFA to MDFA, from Massport to the MWRA—and need only be mobilized. The Executive Office of Environmental Affairs has been active in promoting the Community Preservation Act and encouraging state transportation agencies to consider the land-use implications of road projects. In one scenario, the EOEA could become the state planning office.

Executive Order 385, a little-known measure signed by Governor William F. Weld, instructs state agencies to consider local growth-management plans, adhere to smart growth principles, and promote rehabilitation and re-use of infrastructure in development projects. Jay Wickersham of MEPA referred to this executive order when he encouraged the state Office of Transportation and Construction to form its Land Use Task Force, which is designed to consider development patterns and not just the swift flow of traffic or people, in rail or highway extensions or improvement projects.

Under one scenario, E.O. 385 could serve as the foundation stone for a new regional policy directed by state agencies. If a governor decided to use E.O. 385 as the basis for a comprehensive smart-growth policy, she or he could designate key state officials to coordinate the development activities of a wide range of agencies such as Administration and Finance, Housing and Community Development, Transportation, and Environmental Affairs. Just as President George W. Bush's director of homeland security coordinates the policies of a wide range of entities concerned with terrorism, so too could a growth czar coordinate a wide range of state officials.

Even without a growth czar, the state can provide better vehicles for coordinating development—for making sure that the right hand knows what the left hand is doing. A better link between state housing policy and a big-picture view of land use would help change the landscape, smart growth advocates say. Putting affordable housing on state surplus land such as the Belchertown state hospital might sound like a good idea on paper, but left unconsidered is where the jobs for those residents will be—and how much they will contribute to traffic congestion. Thus the state Department of Housing and Community Development could coordinate with the Executive Office of Transportation and Construction to locate major new affordable-housing projects near transit nodes, in the urban-village model. Similarly, the Executive Office of Economic Development could coordinate more with the Executive Office of Environmental Affairs, steering companies toward existing urban centers rather than to undeveloped land along major highways.

*At the regional level:* Noting the unpopularity of the State Office of Planning in the 1970s—and the different needs and capacities of different regions within Massachusetts—smart-growth advocates like the MAPC’s David Soule have called for creation of a regional planning authority with muscle. Building on the models of the Cape Cod Commission and the Mayflower Compact, these advocates say that Boston will only address its fragmented character with an entity that coordinates land-use policies for all of Eastern Massachusetts.

The exact makeup and powers of the regional authority are open to debate. Assuming that MAPC would be the body given the powers to manage regional planning and development, the first step would be to get the MAPC designated as Greater Boston’s metropolitan planning organization, which carries out federally funded transportation projects and programs. Those programs—as part of a larger comprehensive transportation plan—could provide a framework for land-use planning in the region. A second step would be to give the MAPC some authority to control certain aspects of land-use planning, for example, requiring localities to create mixed-use communities near their business districts and transit nodes and requiring the designation of land for multi-family housing. A third and grander step would be for the MAPC to develop a comprehensive plan for the region, with coordinated strategies for building a more integrated transportation network, encouraging housing development, protecting vital natural spaces, and managing inter-community relations on everything from freight traffic to waste disposal.

Getting cities and towns to cede their local powers to such a regional body is an unlikely scenario. For the foreseeable future, MAPC will likely exist side by side with Greater Boston’s existing MPO. While the MPO coordinates

transportation policy, the MAPC will continue to convene state and local officials to address common challenges, develop sophisticated information systems, and develop special projects around strategic issues and spaces.

**Compacts:** Already, coordinated planning has taken hold on the sub-regional level. A number of groups have developed plans and working groups that recognize Greater Boston's "poly-nodal" character. Under this understanding, cities and towns recognize that the region should no longer be considered as an urban solar system, with suburban planets revolving around an urban center. Instead, newly developed areas relate to each other on a more equal basis, like stars in a constellation.

The Boston Society of Architects "Civic Initiative," after a series of workshops held in 2001, suggests that a more realistic first step—short of a statewide "smart growth" agenda—is to identify encourage cities and towns within Greater Boston's sub-regions to work together. At its regional charrette and "future search" events, the BSA identified smart-growth principles to guide development along Interstate 495; the Alewife area that includes Cambridge, Belmont, and Arlington; the Assembly Square land in Somerville, which abuts Medford, Everett, and Boston; the Chelsea Creek, which connects Chelsea, Revere, and Boston; the Urban Ring corridor, which includes six cities and towns; and Telecom City, a 200-acre development involving Everett, Malden, and Medford. All of those efforts were already under way before the BSA process, but the BSA hopes to bring greater visibility and resources to these efforts—and to identify them as a coherent poly-nodal strategy of regionalism.

Over time, these separate collaborations might come together as a more unified regional strategy. The operating assumption behind such efforts is that, before a comprehensive strategy can be developed, the state needs to mobilize communities that have a common cultural or geographical identity—and common problems that require joint action. The sub-regional approach would have the politically attractive attribute of being sensitive to each sub-region's special needs and strengths.

### ***Strategic Action***

Rather than trying to micromanage all aspects of policy, some smart growth advocates say that planners should seek critical "leverage points" where strategic intervention can yield good results and spur others to pursue sensible development. Advocates of this approach—inspired by Malcolm Gladwell's work *The Tipping Point*—say that strategic interventions can change the dynamic of much larger areas. The key is to find the leverage points that affect a wide range of policies and actions.

One leverage point that has won great favor among planners is known as transit-oriented development. Building on Greater Boston's development as a series of "streetcar suburbs," TOD enthusiasts say that the smartest kind of development occurs at key nodes where transit stations, housing, retail outlets, offices, and public facilities all come together. The post-World War II style of development separated these land uses, necessitating car ownership and causing development to spread out. But Greater Boston possesses the infrastructure for a revival of these "urban villages."

And, as the Conservation Law Foundation points out, TOD developers can help design, build and pay for stations, creating a win-win situation for a state transit agency chronically short on cash.

The state has no comprehensive policy on transit-oriented development. Dennis DiZoglio, the director of planning for the Massachusetts Bay Transportation Authority, says that the MBTA will work with localities that wish to concentrate development on transit nodes—but that the T will not take a proactive approach to the issue. DiZoglio argues that land-use decisions should be left with localities—that if towns wish to build large-scale parking near transit stations, rather than a mix of uses, those wishes should be respected. But DiZoglio has promised that the MBTA would work with communities that wish to concentrate development at their transit nodes.

A more aggressive state policy on transit-oriented development could be a beacon for private developers, at high-profile sites such as the South Weymouth Naval Air Station and all along commuter rail expansion such as the Greenbush line. As state policy, "transit villages" around stations, such as those under construction in Salem, could make park-and-ride, highway-oriented stations the exception instead of the rule.

The City of Boston is pursuing an urban village strategy as a result of the Boston 400 planning process. After developing assessments of more than 50 "activity centers" around the city, the Boston Redevelopment Authority is developing detailed plans to transform Upham's Corner in Dorchester into a classic urban village. Such an urban village would include new transit service, better roadway design and management, and more aggressive development of housing, commercial, office, and cultural and social-service spaces in the area that is now anchored by the historic Strand Theater.

*Attack the 'invisible' regional policies:* Many experts argue that regional sprawl results not just from land-use and infrastructure policies, but also from other more general fiscal and tax policies. One such policy is local dependence on property taxes for funding public education. Some 73 percent of the locally raised revenues come from property taxes; in the U.S. as a whole, 47 percent of local revenues come from property taxes. This dependence on property



levies intensifies the search for kinds of development that yield high revenues without making claims on local budgets; in other words, it favors office parks and retail centers over housing and community facilities. Development patterns will not change, according to this school of thought, until the need for “tax farming” for commercial development is removed by reducing the role of property taxes for schools and other local services.

Housing policy is another “invisible” regional policy. If Massachusetts residents are given a broader array of affordable housing choices, many of the root causes of sprawl will be addressed and development patterns will gradually begin to change. If new housing were easier to build all over the region—rather than being practically zoned out of most cities and towns altogether—the strain on communities like Boston, Cambridge, and Somerville might ease. If housing were developed more intensely in communities like Lexington, Bedford, Burlington, and Westwood, it might increase the economic potential of neighboring communities as well. Even if new housing did not have such a spillover effect, it would remove some of the strain on communities now carrying the burden of new housing development.

Other kinds of “invisible” regional policy may include tax breaks to major corporations to locate or stay in the Commonwealth, which often spur new office-park development; the consolidation of schools, which has the effect of making education less local and more dependent on busing; the use of standardized tests like MCAS, which cause more mobile or affluent households to seek out districts with higher overall test scores; the clustering of social services in cities like Boston, which strengthen the “migration chains” of immigrants to a handful of communities; volunteer and parttime systems of local government, which direct the attention of local residents to the most local concerns; and the failure to develop collective systems of purchasing and service delivery, which has the effect of separating neighboring cities and towns from each other.

**Land acquisitions:** Even if the state does not adopt policies that coordinate land use, it can still take critical steps to direct development away from the state’s remaining farmland and other open spaces. Senate President Thomas Birmingham in 2001 proposed to dedicate 15 percent of any budget surplus towards the purchase of conservation land. Birmingham argues that the state should take a more aggressive role in land conservation deals. The current mechanism for buying conservation, through capital spending channels, is limited; if Birmingham’s measure had been in place over the last five years, it would have generated \$172.5 million to protect 40,000 acres of open space. “We’re a densely populated, geographically compact state, and when we lose open space it’s like the extinction of a species. It’s gone forever,” he said. The

bill was supported by the Environmental League of Massachusetts, the Trust for Public Land, and the Massachusetts Audubon Society.

### *Toolkits for Cities and Towns*

One popular approach to foster smart development patterns in a region that resists regional coordination is to use the carrot rather than the stick. The state could develop a wide range of new resources in exchange for the willingness of cities and towns to adopt favored development and land-use policies.

One of the most innovative new tools is the authority to raise new revenues for projects that encourage smart growth. Cities and towns struggle to raise new revenues because of restrictions on increases in local property taxes under Proposition 2½. But in 2001, after the state legislature approved the Community Preservation Act (CPA), cities and towns had the opportunity to impose a surcharge of up to 3 percent on local property taxes to fund housing, open space acquisition, and historic preservation projects. Since its enactment in September 2000, 67 cities and towns have voted on proposals to use this new taxing power; 35 have passed new local levies, mostly for open-space acquisition. Proponents of the CPA says that it gives localities all the tools they need for a balanced local development strategy, while critics say that the new funds can actually undermine smart-growth goals like density by designating developable land for open space.

The state has been providing critical planning information to localities through a “build-out analysis” conducted by the regional planning organizations. In Greater Boston, the Metropolitan Area Planning Council has conducted these analyses, which provide projections of growth potential for every city and town under current zoning and other local conditions.

Executive Order 418, in conjunction with the EOEAs build-out analysis, provides \$30,000 for technical assistance. Towns may use the money—either alone or by pooling their money with nearby communities—to write a long-range plan. The money must be spent equally for housing, transportation, and environmental analyses. The centerpiece of the work is an analysis of expected development patterns over the next 25 years, given the amount of undeveloped land in any given community.

A bill filed by state Senator Mark Pacheco would create a \$35-million pool for municipalities to hire consultants and to create long-range plans. This proposal is similar to the CPA and Executive Order 418, but increases the money available for cities and towns to devote to first-rate planning. It was also supported by the Conservation Law Foundation, the Environmental League of Massachusetts, and the Massachusetts Audubon Society.

Another tool that the state could offer localities is known as “transferable development rights.” TDRs allow developers to “trade” the right to

develop land with other land owners. An owner of ecologically sensitive land, for example, could agree to keep the parcel as open space in return for the right to co-develop another parcel of land more intensively. A TDR system can be an invaluable tool for communities to steer development to desired locations, but towns in particular need legal support and technical assistance to make it work.

**Information:** Planning and development is a field where even insiders have a hard time keeping up. The many moving parts—housing, transportation, governance, equity, land-use law, the environment, public-private development—can be dizzying for even those who closely follow the issues. That is why information—data, analysis, maps, projections of current trends—is so crucial for the planning process. And the more of it that is accessible by the general public, the better, many policymakers believe.

The EOEAs build-out analysis program for all 351 cities and towns in Massachusetts provides a basic foundation for planning decisions moving forward—the miles of road that will be needed to support the maximum amount of development that current zoning allows, projected increases in population, how many more kids the local school system will have to absorb, the millions of gallons of water that will be consumed and the millions of tons of trash that will need to be disposed of.

The Metropolitan Area Planning Council's MetroPlan 2000 offers another important source of information, tracking trends in economic development (e.g., the loss of manufacturing jobs); land use (the loss of 261,089 acres of open space since 1950); transportation (traffic is growing at 2.5 percent per year, and 80 percent of the region's expressways are congested during rush hours); air quality (the region, already in violation of the Clean Air Act, expects pollution to rise by 2010); water quality (12 communities facing local water-supply shortages, documentation of groundwater contamination), and housing (the region's ratio of housing cost to income is among the highest in the nation).

Other efforts to assemble information are underway that focus on the environment. With funding from EOEAs, the Natural Heritage and Endangered Species Program has developed a program called the BioMap, to identify areas in the state most in need of protection. The focus is on state-listed rare species, their habitats, and "exemplary natural communities." A more regionally focused effort is underway at Plymouth's Manomet Center for Conservation Science, which is identifying natural areas of importance in a 60-community area in Southeastern Massachusetts. The assembly of scientific data includes computer-based maps that show how buildings and natural areas relate to each other. If ecologically sensitive areas can be identified

in an objective, verifiable fashion, policymakers can use this information as a basic starting point.

Finally, Myron Orfield, a state legislator in Minnesota who has spurred a nationwide debate about regional equity with his book *Metropolitics*, recently authored the report, *Boston Metropatterns*, sponsored by the MAPC, the Citizens Housing and Planning Association, and Harvard University. The report shows how inefficient development patterns have driven the housing crisis. The report details the starkly uneven characteristics of income distribution in the metropolitan area—how sprawl relegates low-income populations to live in Brockton, Boston, Lynn or Lawrence, creating pervasive social separation.

The methods for compiling and analyzing such data can be contested, of course. The use of a “sprawl index” to rank metropolitan areas has been heavily criticized because of confusing standards involving density per acre. *National Geographic* recently came under fire for alleged exaggerations of large urban and built-up areas, based in part on satellite images of nighttime lights.

*Smart design incentives:* The so-called “green building” or “green design” movement in Massachusetts follows a basic theme: that the development that does take place in the state, including office parks and shopping centers, can at least be designed to have a minimal impact on the environment. The principles of green building call for using recycled materials, consuming fewer natural resources in construction, and using less fuel for heating and cooling. In Bellingham, a series of perforated underground tanks collects rainwater that runs off from rooftops and parking lots, recharging the underground water supply. So-called “graywater,” or water from sinks (versus toilets), can be cleaned cheaply and used for irrigation and other purposes. Advanced building materials maximize energy efficiency, and the use of solar panels can augment or replace conventional power sources.

The frequent complaint about sprawl is that people do not like the way the landscape looks—the cookie-cutter retail outlets and their garish signs, the multi-lane arterials, the look-alike houses in subdivisions, the personality-free architecture of office parks. Thus solutions to sprawl can pack more punch when they include attractive, well-designed features. Homebuyers who have a fixed idea of a single-family subdivision and a one-acre yard can be lured by attractive designs for a more compact living arrangement. Attention to design is also critical in affordable homes, for both buyers and the surrounding neighborhood. Encouraging people to consider an array of housing choices—places without big yards or garages, or homes near

transit—can be helped immeasurably by a built environment that has been thoughtfully designed.

**Reform of local authorities:** The tension between planning and economic development arises most publicly at the Boston Redevelopment Authority, but every municipality struggles with the same dilemma. Many say the BRA is a relic of a bygone era of urban renewal. After the departure of BRA Director Thomas N. O'Brien in 1999, Mayor Menino promised an overhaul, but the basic framework of the agency remains. Development projects, perceived to be the domain of the mayor, are handled on a case-by-case basis. The preferred approach to large projects is still the “planned development area,” or PDA, where building heights are negotiated with individual developers. The administration has resisted the idea of a firm master plan for neighborhoods of the city or for the city as a whole, despite critics who argue that there should be a clear set of rules for all developers to follow.

Absent more thorough reform of an agency where many jobs are safely held by those with political connections, the BRA moved recently to become, in effect, more user-friendly. Proclaiming that citizen participation was critical to planning and development decisions, the agency recently published a *Citizens' Guide to Article 80*, which spells out the review process for all development projects in the city.

The reform of planning practices in suburban and rural communities is more difficult. Both Executive Order 418 and the Community Preservation Act provide funding for towns to increase their planning capacity, as do locally initiated efforts like the I-495 Initiative. In the case of the I-495 Initiative, however, planners who receive training on permitting or responsible environmental practices do not consider broader issues that bring into question basic assumptions—that it is desirable to have office parks near highways, for example. In other communities, planning reform is really about increasing the stature and resources of local planning officials. But the position can become political. In Wareham, town planner Charles Gricus fiercely opposed the Makepeace proposal, reflecting the complaints of vocal constituents.

### ***Getting Out of the Way***

Charles Tiebout's classic model of metropolitan choice suggests that local government is most responsive when citizens enjoy the greatest opportunity to “vote with their feet.” A region with many different cities and towns is more likely to be responsive than a unified system of governance, since people can pick and choose which community offers the right mix of infrastructure, services, amenities, and taxes.

The upshot of Tiebout's thesis is that the full range of public goods—housing, parks, transit, social services—will be provided more thoroughly and efficiently if the local governments are left to create the mixes of services that are most appropriate to their needs and capacity. In a region of many local governments, there are likely to be several communities with the appropriate mix of taxes, services, and amenities for everyone. Not all communities will provide the complete mix of services, but every household will be able to find the rung of the ladder that is appropriate to their needs and circumstances.

Greater Boston is full of stories of local regeneration through local action. The town of Ipswich has, on its own, taken several steps to promote more compact development and preserve open space. Its plan steers housing into developed areas, emphasizes development near commuter rail, and requires that new developments be pedestrian-friendly. In addition, the town has set aside \$10 million through a bond issue for land conservation purchases. Meanwhile, nearby towns like Salem and Gloucester have taken their own steps to improve their attractiveness.

A market-based strategy favored by the Small Property Owners Association and the Massachusetts Homebuilders Association identifies too much regulation as the principal barrier to balanced development in the region. Developers say they would be glad to develop housing, live-work space, or retail space on vacant lots or old warehouses, but they face unwarranted obstacles in the permitting process. The redevelopment and adaptive re-use of buildings is indeed a bureaucracy-laden process in many municipalities, from strict fire and building codes to historic concerns. Many Massachusetts officials have been exploring the possibility of adapting New Jersey's award-winning strategy to loosen regulations on building rehab.

The Massachusetts Homebuilders Association opposes smart growth if it means an extra layer of bureaucracy on top of existing local systems. The group fears that approvals will someday be needed not only from the local planning board, but from a regional entity as well. The backlash against smart growth is waiting to happen in Massachusetts, as it has already been unleashed in Oregon (property owners there can be compensated for land values diminished by land-use regulations) and in Maryland (Carroll County has passed a zoning law encouraging residential development on farmland, in direct conflict with state policy).

### **Toward a New Regime of Planning?**

The policy options for better growth management are abundant and varied. Sprawl is one of those issues that affects some individuals on a day-to-day basis, but solutions may require long-term thinking that is harder to grasp

and rally around as a political cause. It is a “big picture” issue like health care, but voters are more likely to spring to action when faced with immediate threats like a largescale housing project or highway routing. Former Vice President Albert Gore could not capitalize on sprawl as an issue in his 2000 presidential campaign. Former Governor A. Paul Cellucci did not see much mileage in regional planning; still, he and his advisors did pick up on the fact that many affluent and well-educated voters care deeply about the preservation of open space.

Voters also do care deeply about quality of life and the New England-style, small-town character of rural and suburban communities. But that preservation impulse does not translate to managing growth. It translates to stopping growth entirely.

The I-495 corridor offers a fascinating case study of the future of growth management in Massachusetts. Most of the state’s growth in the 1990s took place there, according to the U.S. Census. Residents are sure to become an important political force, and they could become increasingly frustrated with traffic jams, office parks, commercial strips, and the loss of open space.

The rest of eastern Massachusetts poses a vexatious “in-between” scenario—not quite dire enough to warrant widespread outrage, as it did in Atlanta or in Maryland, but enough to prompt anti-growth campaigns, as has occurred in towns such as Bolton. Timing is at issue here: residents who moved to towns along I-495 did so wanting a particular quality of life; once they are established there, they fight against the things that degrade that quality of life. That means simply saying “no” to more development—the “pull up the drawbridge” response. These residents are unlikely to call for better planning on a statewide basis; they care primarily about their own town.

In this scenario, there is no real window of opportunity to capture popular support for smart growth, and the slower and steadier the pace of growth, the more difficult constituency-building is likely to be. When conditions worsen sufficiently, towns will impose no-growth policies when they can. But conditions are never severe enough to reach the “tipping point” necessary to prompt more than a handful of communities to band together to reassess planning policy on a broader level. The only place where the “Atlanta effect” might occur is in Southeastern Massachusetts, but thus far the most publicized response by residents has been to say “no” to development altogether, as seen in the fight against the Makepeace proposal.

The state’s political culture also undermines the “smart growth” movement. The tradition of home rule in Massachusetts means that 351 individual communities design their own land-use policy. The rebelliousness that led

to the Proposition 2½ tax cap resists broad new government initiatives and anything that smacks of “Taxachusetts.” The Commonwealth elected Republican governors in the last three elections and voted itself a major income tax cut in 2000. Property rights—the notion that the government cannot reduce the value of land or block a particular use of land because that is unconstitutional—may be most associated with the “Sagebrush Rebellion” of western states, but New England has its own culture of the inviolability of property. While rebellious counties in Maryland fight the statewide growth management plan and Oregon property-owners savor their November ballot victory requiring government compensation for losses in property values, the seeds for similar revolts are in the ground here. Nurtured by a culture of Yankee independence, economic self-interest remains of primary importance.

The most immediate impediment to a smart-growth movement is the economic downturn and the fallout from the September 11 terrorist attacks. Smart growth is predicated on more people living in cities, and because cities remain the likeliest targets of terrorism, fewer people than ever may want to live in them. Workers may be especially reluctant to work in tall buildings. Some businesses in lower Manhattan have already moved out to suburban locations.

But the terrorist attacks have a broader impact. In states across the country, security has become the primary concern of public policy. As budget surpluses turn to budget deficits, public officials are reluctant to restrict revenue-generating development of any kind. The recession also removes the urgency needed to arouse a movement. Slower economic activity means less building of office parks, shopping malls, and ultimately single-family subdivisions. After September 11, growth management seems a quaint or even naïve issue. The new focus is on jobs and economic development, not controlling growth or scaring developers or companies away.

Despite widespread frustration with traffic jams and the placelessness of sprawling settings, a statewide outcry about sprawl has failed to materialize. And in the absence of an organized, passionate constituency focused on planning and development, Massachusetts politicians seem likely to continue to focus on other issues.



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