Open Space Plan 2008-2014

Section 3
Community Setting

Section 3.1: REGIONAL CONTEXT

Traversed by rivers and streams, Boston is located on the Atlantic coast. The resulting physical environment of harbors, shoreline, tidal flats, lakes, ponds, marshes, and riverbanks provided transportation, supplied water, and steered development through the city's long history.

Many of these physical characteristics have been greatly altered through the ensuing centuries: hills were leveled and used to fill wetlands; streams were covered over for housing and industry; the shoreline was pushed ever eastward; military installations were built and buried on harbor islands and along coastal promontories; and an airport was built over islands and wetlands.

Boston was incorporated as a town in 1630 and as a city in 1822. Boston's 2000 population of 589,141 makes it the largest city in New England and the 20th largest in the United States. Encompassing only 48.4 square miles, Boston is actually the second smallest major city in land area in the country. The city's long history and compact size means a higher population density (12,172.3 persons per square mile) than many other urban areas. In turn, this has generated an ongoing need to create and preserve all manner of open space in competition with other land uses.

Despite its relatively small land size and population, Boston's influence is felt throughout the region. It is the economic, educational, medical, and cultural "capital" of the New England region. Boston is the center of the seventh largest metropolitan area in the nation, with a population of 5.4 million people in the Consolidated Metropolitan Statistical Area (CMSA) as defined by the federal government. The smaller Primary Metropolitan Statistical Area (PMSA) includes over three million residents.

About 600,000 people work in the city, making Boston – along with Washington, DC and San Francisco – one of only three major cities that have more jobs than residents. In fact, one out of every six jobs in Massachusetts and one of every 17 jobs in New England is located within Boston. The city's economy is service-based and its leading industries are financial services, health care, education, high technology, and tourism.

Boston is home to 35 public and private colleges and universities, with a combined full-time and part-time enrollment of more than


Harbor Islands
EVERETT
REVERE
CHELSEA
SOMERVILLE
Charlestown
East Boston
WINTHROP
WATERTOWN
CAMBRIDGE
Central
Back Bay/Beacon Hill
Allston-Brighton
Fenway/Kenmore
South End
South Boston
BROOKLINE
NEWTON
Harbor Islands
Dorchester (North)
Jamaica Plain
Roxbury
Dorchester (South)
Roslindale
West Roxbury
Mattapan
Hyde Park
MILTON
QUINCY
DEDHAM
WESTWOOD
CANTON
0 0.5 1 2 3 Miles
City of Boston
Planning Districts
August, 2007
Thomas M. Menino, Mayor
Prepared by the Design & Construction Unit
Boston Parks & Recreation Department
Antonia M. Pollak, Commissioner

137,000 students within the city limits. Altogether there are 65 colleges and universities in the surrounding area with more than 250,000 students. The combination of highly skilled jobs and the large number of colleges and universities results in a highly educated work force and a population that is relatively younger than other cities.

There are 20 hospitals in the city with a total of some 5,909 beds along with three of the nation's leading medical schools. Boston is also home to renowned museums, nationally recognized orchestras, professional theaters, and many performing and visual artists whose combined presence creates a strong cultural dynamic in the city.

Boston is a major government center: capital of Massachusetts, seat of Suffolk County, and host to several federal offices for the New England region.

Given all the factors cited above, Boston generates needs for itself and its surrounding communities. To meet many of those needs, the state and the region have developed a wealth of resources that cross town and city borders:

- The Massachusetts Bay Transportation Authority (MBTA) makes over 1,240,000 daily passenger trips in a system that extends across 175 communities in the region and even crosses state borders.
- The Massachusetts Water Resource Authority supplies potable water to the Greater Boston area and treats it after the water is used.
- The Massachusetts Port Authority operates roads, bridges, Logan International Airport, and maritime shipping facilities.
- The Bureau of Urban Parks and Recreation (Department of Conservation and Recreation) is responsible for most major open spaces throughout the region, including the Charles River and the Neponset River Reservations, the Stony Brook Reservation, harbor beaches, and sites across Boston.
- The Massachusetts Turnpike Authority operates a limited access toll-way from the New York border into the center of Boston.
- The Emerald Necklace is a linked chain of historic landscaped parks shared by Boston and Brookline.
- The Metropolitan Area Planning Council (MAPC) conducts research and provides comprehensive planning assistance to the 101 member cities and towns within its jurisdiction. Boston is a member of the Inner Core Committee, one of 8

MAPC sub-regions. This committee meets regularly, and provides a forum for discussion of regional open space issues and opportunities.

Section 3.2: HISTORY

Its physical environment has indeed shaped Boston's history. Some 7,000 years ago, native peoples came to this area to fish and hunt. They encamped on the harbor islands and in places on the mainland, including what are now Boston Common and Arnold Arboretum.

Four hundred years ago, European explorers discovered Boston Harbor. In 1629, the first European settlers arrived and founded Boston. Theirs was a world of cod and merchant ships, a place of rivers and meadows that carried settlement inland. The landscape of steep hills and small valleys with ponds, streams, and small rivers was amenable to early agriculture.

In time, this setting made possible a seaborne commerce that flourished through protected deepwater harbors. Early manufacturing utilized the waterpower of streams and rivers. The rolling terrain offered a venue first for farmland, then suburban estates, and then streetcar suburbs as the population increased throughout the 19th century.

As economics and populations shifted, so too did the challenge to maintain and create adequate open spaces for the growing population. Several waves of immigrants in the previous and current centuries resulted in crowded and impoverished neighborhoods where parks, playgrounds, and other forms of public open space were important to populations that had limited personal resources for recreation.

In the past, economic downturns, political indifference, and heavy use have combined to deteriorate some of Boston's proudest green areas. For example, assorted past industrial uses along the Charles and Neponset Rivers and other rivers and streams have left behind lingering pollution problems. Recent extensive and costly clean up efforts are now beginning to alleviate these problems, thus enabling such areas to be used more extensively for water-based recreation. Related to such changes has been the

ongoing effort to preserve existing open spaces while working to increase their size and quality.

Changes in the way the world does business have had impacts on Boston. One example was the conversion of railroad tracks that already cut through Boston into the Massachusetts Turnpike. The noise and air pollution of trains were traded for those of cars and trucks while the turnpike took more adjacent land for its right of way. Moreover, as commerce through the seaport declined, freight and passenger traffic at the adjacent Logan International Airport increased, leading to more runways and other aviation facilities that spread across islands, tidal lands, and even a city park.

After World War II, the promise of suburbia was particularly alluring in the Boston area. The population declined as many families left, trading apartment blocks and triple-deckers for the lifestyle of single-family homes separated by yard space and linked by tree-lined, wide streets. The population decline devastated several neighborhoods in Boston, leaving behind abandoned buildings and vacant lots as the legacy of the overcrowding generated by the streetcar suburb boom of the late 19th and early 20th centuries.

With the drop in population and the rise in abandoned buildings and vacant lots came a consequent pressure on municipal coffers. Pressures grew to reduce labor-intensive municipal functions: parks maintenance became a significant target, especially given the difficulty of standardizing the operations in the maintenance process. With the loss of constituents, and the pressure posed by reduced maintenance, city parks deteriorated during the 1960s and 1970s. The greatest blow was in the early 1980s, with the passage of Proposition 2-1/2. This measure capped the rate at which local property taxes could rise, further limiting municipal revenues.

Open space activists in the mid-1980s formed a coalition of local park advocacy groups to strengthen their voice in City Hall. They put together an effort along with local philanthropists to focus on the critical state of deterioration of the park system, both municipal and metropolitan. It resulted in a landmark study, the Greening of Boston that stimulated the city to develop a 1987 open space plan that outlined a program to rehabilitate the park system. Thanks to the booming economy in Boston during the 1980s, the city was able to enjoy large increases in property taxes, which could fund the proposed multi-million dollar rehabilitation campaign. But just as important was recognition at the policy level that to revitalize neighborhoods and stimulate private re-investment in them, beautiful, safe, clean, functional parks were needed. Such parks

were now seen as a key measure by which individuals and businesses assessed the value of a neighborhood.

Nevertheless, even during the period of post-war decline as the natural landscape was in some cases degraded, opportunities arose from these very conditions. Boston currently has more than 180 community gardens that provide thousands of residents with a food source, sense of community, and some outdoor exercise. Many of these gardens are located in some of the poorest neighborhoods and were built on trash-strewn vacant lots that sprang up as substandard and abandoned homes and businesses were demolished. These sites have been transformed from dangerous eyesores to attractive produce and flower gardens. They have also increased neighborhood value.

A final example of the continual pressures between local communities and the forces of massive development is today's Southwest Corridor Park. Originally a rail line, it was to be expanded – in the manner of the Massachusetts Turnpike – into a multi-lane freeway that would have cut through the hearts of Cambridge and Boston. However, widespread community opposition from many diverse neighborhood organizations led to the project's defeat. Today this right-of-way serves as a mass transit corridor for local, commuter, and regional/national rail travel, with parks and gardens along and over the below-grade rail corridor.

Section 3.3: POPULATION CHARACTERISTICS

Boston's population has been rising over the past thirty years, in contrast to previous decades of population loss.

There was a 2% rise in the 1990 figure (574,283) over the 1980 figure, and a 2.59% rise in the 2000 figure (589,141) over the 1990 figure. Population density increased from 1980 to 1990 by 245.1 persons per square mile, reflecting the increase in total population. Population density increased by 311.1 persons per square mile between 1990 and 2000, to 12,172.3 persons per square mile. The population increase speaks to a need for more open space, as more people will likely put more pressure on existing spaces.

In 1990, 19 percent of Boston's population was in the 0-17 age category, while in 2000 that has increased to 20%. Overall, the need for a full spectrum of open spaces is clear, from pedestrian/bicycle paths and children's play lots, to ball fields and courts, and passive spaces and community gardens.

Household growth was sizable from 1980 to 1990, a 4.69% increase, which explains part of the increased pressure on housing availability and prices. This continued in the 1990 to 2000 period, with a increase in households by 4.87%. In 2000, the average persons per household figure was 2.31, with 1-person households representing 37% of all households, the largest percentage among the household size categories. Open spaces provide an important venue for social interactions between and within families and households; at the same time, the increasing number of households and the resulting pressure for housing puts pressure on existing open spaces and the remaining land resources available for future open spaces.

Unemployment in 2000 was at 7.2%, while median household income at that time was $39,629. The poverty rate was 19.5%. When incomes are lower, persons and households will likely be more dependent on public open spaces close to home for their outdoor leisure pursuits. (Even higher income persons and households are dependent on public open spaces for various forms of organized – and unorganized – play.)

Multi-family housing is the general rule in Boston: renters occupied 68% of housing units, per the 2000 census; 68% of year-round housing units were in structures with 3 or more units. Renters and

owners in multi-family structures will tend to have less access to open space on-site, and therefore have greater need for open space availability in the public realm.

The availability of a motor vehicle for a household leads to mobility and access to recreation areas much farther from home than walking distance: yet in Boston, per the 2000 census, 35% of households had no access to a vehicle, making them generally dependent on walking or various forms of mass transportation to access open space.

In terms of race, Boston has become more diverse in the past twenty years. The white population share has dropped from 68% in 1980 to 59% in 1990 to 54% in 2000. The black/African-American share has remained fairly stable (22%, 1980; 24% in 1990 and 25% in 2000); while the categories Hispanic, Asian/Pacific Islander, and Other have increased their population share from 10% in 1980 to 17% in 1990 and 27% in 2000. The increase in categories other than black and white has much to do with the rise in immigration over the past twenty years. Immigrants have been a significant part of the increased interest in non-traditional sports such as soccer and cricket. These increases have put pressure on certain open spaces.

City-wide Demographic and Housing Profile

Population		
2000 Census		589,141
1999 Census		574,283
1980 Census		562,994
Population growth/decline,	1990 -2000	2.59%
Population growth/decline,	1980 -1990	2.01%

Age		
0 to 4	31,765	5%
5 to 9	34,045	6%
10 to 14	32,582	6%
15 to17	17,482	3%
18 to 24	95,693	16%
25 to 44	211,563	36%
45 to 64	104,410	18%
65 to 74	31,357	5%
75 to 84	22,139	4%
85 and over	8,105	1%

Community Setting

Race	
	% of Total Population
White alone	54%
Black or African American alone	25%
American Indian and Alaska Native alone	0%
Asian alone	8%
Native Hawaiian and Other Pacific Islander alone	0%
Some other race alone	8%
Two or more races	5%

N.B.: "0%" means "less than 1%

Latino Status	
	% of Total Population
Not Hispanic or Latino	86%
Hispanic or Latino	14%

Households	
2000 Census	239,603
1990 Census	228,464
1980 Census	218,234
Household Growth/Decline, 1980-1990	4.69%
Household Growth/Decline, 1990-2000	4.87%

Population by Household Type	
	% Persons
Family households	65%
Non-family households	29%
Group quarters	6%

Average Household Size	
	Persons per Household Type
All Households	2.31
Family Households	3.28
Nonfamily Households	1.39

Persons Per Household		
	Households	%
1-person households	88,863	37%
2-person households	70,383	29%
3-person households	34,185	14%
4-person households	23,743	10%
5-person households	12,978	5%
6-person households	5,565	2%
7-or more person households	3,886	2%

Community Setting

Population Density	
	Persons per Square Mile
1980 Census	11,616.1
1990 Census	11,861.2
2000 Census	12,172.3
Density Change 1980 to 1990	245.1
Density Change 1990 to 2000	311.1

Housing Tenure in Occupied Housing Units	
	% in Occupied Housing Units
Owner occupied	32%

Total Occupied & Vacant Housing Units in Structure	
Single units	17%
Double units	15%
3-9 units	38%
10-19 units	9%
20-49 units	9%
50 or more units	12%
All other	0%
Single/Multiple Unit Ratio	0.20

Household by Number of Vehicles Available	
No vehicles	35%
1 vehicle	44%
2 vehicles	17%
3 or more vehicles	4%

Median Household Income
$39,629

Civilian Unemployment Rate
7.20%

Poverty Rate
19.5%

Industry and Employment Trends

In 2000 Boston had a population of 589,141, as reported by the U.S. Department of Commerce Bureau of the Census (the "Bureau of the Census"), and had 680,174 jobs as reported by the U.S. Department of Commerce, Bureau of Economic Analysis (the "Bureau of Economic Analysis"). The ratio of jobs to population indicates that Boston provides a direct source of employment and

income for an area that extends well beyond its borders. Measured in terms of jobs, Boston's economy comprises approximately 18% of the Massachusetts economy and 10% of that of the six New England states.

The following table shows the 2000-2005 population, income and employment trends for the U.S., New England, Massachusetts, and Metropolitan Boston.

Population, Income and Employment 2000-2005						
	2000	2001	2002	2003	2004	2005
United States						
Total Personal Income ($000)	$8,422,074,000	$8,716,992,000	$8,872,871,000	$9,150,908,000	$9,717,173,000	$10,224,761,000
Per Capita Income	$29,845	$30,574	$30,810	$31,463	$33,090	$34,494
Population	282,193,477	285,107,923	287,984,799	290,850,005	293,656,842	296,410,404
Employment	166,758,800	167,014,700	166,633,100	167,546,500	170,482,700	174,219,000
New England						
Total Personal Income ($000)	$503,960,765	$524,401,681	$528,029,789	$539,129,649	$569,707,851	$595,013,214
Per Capita Income	$36,118	$37,342	$37,379	$37,983	$40,059	$41,785
Population	13,953,025	14,043,298	14,126,418	14,194,106	14,221,651	14,239,724
Employment	8,775,891	8,835,470	8,781,497	8,754,477	8,853,243	8,976,452
Massachusetts						
Total Personal Income ($000)	$240,208,628	$249,094,962	$249,954,238	$254,206,105	$267,820,574	$279,635,404
Per Capita Income	$37,756	$38,953	$38,985	$39,611	$41,799	$43,702
Population	6,362,132	6,394,750	6,411,568	6,417,565	6,407,382	6,398,743
Employment	4,096,551	4,125,438	4,064,943	4,031,056	4,056,984	4,113,773
Metropolitan Boston (1)						
Total Personal Income ($000)	$182,380,414	$188,442,089	$188,434,021	$191,957,545	$203,527,013	$212,464,000(p)
Per Capita Income	$41,436	$42,552	$42,512	$43,345	$46,060	$48,158(p)
Population	4,401,523	4,428,474	4,432,439	4,428,581	4,418,758	NA
Employment	3,046,389	3,070,248	3,012,650	2,974,614	2,985,082	NA

(1) Includes five counties in Massachusetts (Essex, Middlesex, Norfolk, Plymouth and Suffolk) and two counties in New Hampshire (Rockingham and Strafford), which together comprise the Boston-Cambridge-Quincy MA-NH Metropolitan Statistical Area.
(p) Preliminary data
Note: Income in 2007 dollars
Source: Bureau of Economic Analysis, January 2007. 2000 population figures for all of the above are from the Bureau of the Census, except for Metropolitan Boston, which is from the Bureau of Economic Analysis.

The economy of Metropolitan Boston rests primarily on high technology, finance, defense, professional and business services, and educational and medical institutions. Boston's economy is more specialized in the financial, governmental, business and

professional services, and educational and medical sectors, than the suburban economy, which is more specialized in high technology and the defense industry. As used in this section, "professional services" includes business and professional services such as data processing, bookkeeping, news syndicates, law, accounting, engineering, advertising, and architecture. "Non-professional business services" includes building maintenance, security guards, duplicating services, etc.

The following table shows Boston's employment growth by industry category for 2004, 2005, and 2006.

Employment trends for 2004 through 2006 for Boston show that 18,738 jobs have been added in two years, a 2.9% rate of change. Finance, services, education and health show the largest gains.

Community Setting

City of Boston Employment 2004 – 2006					
Industry	2004	2005	2006 (1)	Absolute Change	Percent Change
Fishing/Mining/Agriculture	211	117	104	-108	-51.0
Utilities	2,151	2,159	2,092	-59	-2.7
Construction	16,475	16,623	16,860	385	2.3
Manufacturing	14,074	13,314	11,999	-2,074	-14.7
Wholesale Trade	9,470	9,552	9,473	3	0.0
Retail Trade (excludes food service)	31,609	31,329	31,217	-391	-1.2
Transportation and Warehousing	19,770	18,897	17,335	-2,435	-12.3
Transportation	18,114	17,368	16,625	-1,489	-8.2
Information	16,623	16,376	17,568	945	5.7
Finance and Insurance	75,545	77,689	79,017	3,471	4.6
Banking	15,195	15,211	14,681	-514	-3.4
Securities and other Financial Investment Activities	45,329	46,258	47,713	2,384	5.3
Insurance Carriers and Related Activities	15,123	16,374	16,796	1,673	11.1
Real Estate and Rental and Leasing	18,900	20,224	20,605	1,705	9.0
Professional, Scientific, and Technical Services	70,727	71,428	73,963	3,236	4.6
Legal Services	20,099	20,585	20,701	-248	-1.2
Accounting, Tax Preparation, Bookkeeping	8,957	9,773	9,633	676	7.5
Architectural, Engineering, Design, and Related	10,158	9,979	10,147	-11	-0.1
Computer Systems Design and Related Services	5,327	5,336	6,174	847	15.9
Management, Scientific, and Technical	11,773	11,982	13,152	1,378	11.7
Scientific Research and Development Services	7,164	7,397	7,658	493	6.9
Other Professional, Scientific and Technical Services	6,397	6,375	6,512	116	1.8
Management of Companies and Enterprises	7,665	7,649	7,408	-257	-3.4
Admin & Support and Waste Mgmt and Remediation Services	40,417	41,193	42,664	2,247	5.6
Educational Services	46,542	48,826	50,416	3,874	8.3
Colleges and Universities	39,830	41,715	42,919	3,089	7.8
Health Care and Social Assistance	106,486	108,129	110,773	4,287	4.0
Hospitals	72,038	73,525	75,829	3,791	5.3
Arts, Entertainment, and Recreation	12,948	12,982	12,814	-134	-1.0
Accommodation and Food Services	43,314	44,379	45,442	2,128	4.9
Accommodation	10,170	10,533	10,920	750	7.4
Food Service and Drinking Places	33,149	33,643	35,235	2,086	6.3
Other Services (except public administration) (2)	26,535	26,772	27608	1,073	4.0
Government	76,160	76,739	77,001	841	1.1
Total	**635,623**	**644,378**	**654,361**	**18,738**	**2.9**

(1) 2006 is an estimate based upon first, second, and third quarter of data from DUA and an estimate for the Bureau of Economic Analysis.
(2) Other Services includes repair and maintenance, personal and laundry services, and religious, grant-making, civic,
professional, and similar organizations.
(3) Industry sectors are part of the North American Industry Classification System (NAICS)

Source: 2004-2006 figures are mathematically derived from the Bureau of Economic Analysis Series for Suffolk County, pro-rated to the City's geographical boundary. Due to use of pro-rating factors, minor discrepancies of 1 to 3 units between totals and employment categories may result.

Community Setting

The following table indicates that, as of 2000, 69% of Boston residents were White-Collar workers and 31% were Blue-Collar and Service workers, as compared to 1960 when 44% were White-Collar workers and 46% were Blue-Collar and Service workers. The trend among Boston residents away from Blue-Collar and Service occupations and toward White-Collar occupations was evident between 1960 and 1990. During the decade of the 1990s this trend showed some change. White-Collar occupations continued to grow but at a slower pace, with Managerial, Professional, and Related jobs gaining but Sales & Office jobs declining. At the same time, Blue-Collar & Service occupations continued to decline, with the exception of Production, Transportation & Related workers who showed a modest increase between 1990 & 2000.

Occupational Change in the City's Resident Labor Force

	1960		1970		1980		1990		2000	
	Number	%	Number	%	Number	%	Number	%	Number	%
White-Collar	126,471	44	146,657	55	154,456	60	191,251	67	197,049	69
Manag'l, Profess'l & Related	49,080	17	59,929	23	77,217	30	107,206	38	123,850	43
Sales & Office	77,391	27	86,728	33	77,239	30	84,045	29	73,199	26
Blue-Collar & Service	134,610	46	119,848	45	101,561	40	97,453	33	88,810	31
Constr'n, Extract'n, Maint.	32,398	11	27,157	10	19,772	8	18,453	6	14,118	5
Product'n, Transp'n, & Related	52,175	18	36,695	14	24,825	10	19,971	7	23,630	8
Service and Farm & Fishing	50,037	17	55,996	21	56,964	22	59,029	20	51,062	18
Not Reported	27,115	9	—	—	—	—	—	—	—	—
Total	288,196	100	266,505	100	256,017	100	288,704	100	285,859	100

Source: Bureau of the Census.
Percentages may not add due to rounding.

Unemployment

In 2006 the annual average unemployment rate for the city was 5.3%, a bit worse than the 4.6% national rate. Metropolitan Boston, Massachusetts and New England had slightly better rates at 4.6%, 4.9%, and 4.6%, respectively. All of these rates were still above the historically low rates reached in the year 2000. Bureau of the Census data for Metropolitan Boston for 2000, which differ from the Bureau of Labor Statistics rates shown below due to sample size, accuracy of defining persons in the labor force, and over-counting the officially unemployed, showed that when the city's total unemployment rate equaled 7.2% the unemployment rate for whites equaled 5.1%, and the unemployment rate for all minority groups combined equaled 10.2%. This pattern is typical of many of the nation's urban centers.

Community Setting

Annual Unemployment Rates (in %), 2000-2006							
	2000	2001	2002	2003	2004	2005	2006
City of Boston	3.0	4.1	5.9	6.5	5.7	5.2	5.3
Metropolitan Boston(1)	2.5	3.6	5.3	5.7	5	4.5	4.6
Massachusetts	2.7	3.7	5.3	5.8	5.2	4.8	4.9
New England	2.8	3.6	4.8	5.4	4.9	4.7	4.6
United States	4	4.7	5.8	6	5.5	5.1	4.6

(1) Includes five counties in Massachusetts (Essex, Middlesex, Norfolk, Plymouth and Suffolk) and two counties in New Hampshire (Rockingham and Strafford), which together comprise the Boston-Cambridge-Quincy MA-NH Metropolitan Statistical Area.

Sources: Bureau of Labor Statistics for United States, New England, and Massachusetts, and Massachusetts Department of Workforce Development for the City and Metropolitan Boston.

Largest Employers

The following table lists the fifty largest private employers in Boston, the total list of organizations with more than 1,000 employees, which had an aggregate of approximately 21% of private sector employment in 2006.

Largest Private Employers in Boston, April 2006 (with 1000+ employees, listed alphabetically)	
ABM Janitorial Services	Investors Bank & Trust Co.
American Cleaning Company, Inc.	KPMG, LLP
Bank of America	Liberty Mutual
Beth Israel Deaconess Medical Center	Manulife Financial/John Hancock
Blue Cross Blue Shield of Massachusetts	Massachusetts Eye and Ear Infirmary
Boston College	Massachusetts Financial Services Co.
Boston Globe	Massachusetts General Hospital
Boston Herald	New England Baptist Hospital
Boston Medical Center	New England Financial
Boston University	New England Medical Center
Brigham and Women's Hospital	Northeastern University
Carney Hospital	PricewaterhouseCoopers, LLP
Children's Hospital	Pioneer Investments
CVS Pharmacies	Shaw's Supermarkets
Christian Science Monitor	Spaulding Rehabilitation Hospital
Dana-Farber Cancer Institute	St. Elizabeth's Medical Center
Deloitte & Touche, LLP	State Street Corporation
Ernst & Young	Stop & Shop Supermarkets
Faulkner Hospital	Suffolk University
Federal Reserve Bank of Boston	Teradyne, Inc
Fidelity Investments (FMR Corp.)	Thomson Corporation
Gillette Company	Verizon Communications
Harvard University (graduate schools)	Wellington Management
Hebrew Rehabilitation Center for the Aged	WGBH
Houghton Mifflin Co.	YMCA

Source: Dun and Bradstreet, InfoUSA, and BRA Research Division.

In addition, the public sector has large numbers of employees in Boston. According to the BRA, using a series consistent with the Bureau of Economic Analysis, there were an estimated 77,649 federal, state, and local government workers in Boston in 2006. Certain state government offices, federal regional offices, U.S. Postal Service facilities, state-chartered authorities and commissions (such as the Massachusetts Port Authority and the Massachusetts Bay Transportation Authority), and Boston's local government are all located within the city.

[This "Industry and Employment Trends" discussion was taken from pages 10 – 16 of the following report:
The Boston Economy 2007: Steady Growth, prepared by the Research Division, Boston Redevelopment Authority, May 2007.]

Section 3.4: GROWTH AND DEVELOPMENT PATTERNS

More than 350 years in the making, Boston has evolved through the centuries from a coastal colonial outpost populated by residents from a couple of small English towns to a major metropolis of diverse activities and population.

Relatively small in area for a major city, Boston faces land use pressures and competition as it continues to be "filled up" by development.

Demands for commercial and residential development and the call for more green space are driven in part by continued migration into the city. Boston's population continues to grow, fueled not only by newcomers from other lands as mentioned in the population characteristics part above, but also by empty nesters moving back into the city, and by young professionals who come here to our many colleges and stay to work after graduation.

The city's infrastructure also has evolved through the years. Boston's colonial-era streets have grown into a 795-mile network. Eight major highways feed into downtown Boston and the city is encircled on the north, west, and south by suburbs linked to Route 128, the state's circumferential highway. Three limited-access U.S. interstate highways serve the city.

Boston developed the first subway system in the nation, which has grown into today's Massachusetts Bay Transportation Authority (MBTA), the nation's 5th largest transit system. It serves a population of 4.67 million in 175 cities and towns with an area of 3,244 square miles. The MBTA currently maintains 183 bus routes, three rapid transit lines, five streetcar routes, four trackless trolley lines and 13 commuter rail routes.

Logan International Airport served 26 million passengers in 2004, with 4.2 million of them international passengers.

The city contains over 4,500 acres of parks, playgrounds, and other protected open spaces, more than half of which are owned by other (mostly state) entities. More than one-half of the city's land is tax exempt, owned by either government, religious, charitable, medical, or educational institutions.

Community Setting

The Central Artery/Third Harbor Tunnel Project, also commonly known as the "Big Dig," is in its final stage of construction. It is the largest, most complex and costliest highway and tunnel project in the nation's history, with a new highway tunnel coursing through downtown, with the addition of a new tunnel connecting the Massachusetts Turnpike to Logan International Airport. Thanks to the Big Dig, there is now a total of 300 acres of new landscaped and restored open space, including 45 open parks and major plazas.

Another notable Boston construction project resulting in new park land is the recently completed water pollution treatment plant on Deer Island, in which a 9-mile tunnel was built to carry the secondary treatment plant's effluent eastward to mix with the waters of Massachusetts Bay. Deer Island now contains 60 acres of parkland for recreational use, a 2.6-mile pathway along the island perimeter, and an additional 2 miles of trails on the island hills.

These massive and expensive projects capture the public eye and imagination, but in Boston's residential neighborhoods a more subtle effort has been underway that is also crucial for determining how the Boston of this new century will look and how amenable it will be to its residents. This effort has been a process of re-zoning neighborhood by neighborhood to reflect changes and to better fit residents' needs. This effort is driven in part by the city's high population density that, in turn, increases pressures for development in whatever diminishing yet developable space can be found.

The basic inquiry is: what kind of city do Bostonians want for the next century? All across the city, the question is being answered in both dramatic and modest fashion.

INFRASTRUCTURE

Since European settlement, Boston has always been a little short of elbowroom. Thus, it is not surprising that Boston's infrastructure – the systems of moving people, communicating, supplying the needed water and sewerage and the goods they want – also functioned in close quarters. So it is even today, almost 400 years since the City on a Hill was first settled.

Boston remains relatively small, less than 50 square miles with a downtown of only three square miles. However, with a population

nearing 600,000, Boston is the most populated city in New England. An additional 927,000 people enter Boston each day to work, attend school, or visit.

The necessary infrastructure systems to support this dense area then becomes a double-edged sword. Providing various means of transportation, a myriad of electrical services, gas lines, and water and waste systems not only sustains the population but also encourages ever more users who will tax the limits of the systems.

This also means that land for any use is at a premium. Parking lots and office towers compete with parks and playgrounds for space in the crowded urban environment. Achieving a balance of necessary services while maintaining Boston's quality of life is a continuous push and pull of public policy – one in which open space and infrastructure play key roles, sometimes complementary and sometimes contending.

This section of the Open Space Plan will look at two general infrastructure areas: transportation and water use. Water use includes the consumption of water by people and industry as well as the treatment of water and other fluids as sewage.

TRANSPORTATION

In order of their appearance and development, water, road, rail, and air have provided transportation in Boston.

Transportation activity started with the Atlantic Ocean crossings, carrying the first permanent settlers from Northern Europe. This body of water served as a "coast road" for further expansion all along the eastern seaboard.

Ocean harbors and the rivers that flowed into them soon followed as another transportation element. For Boston, that primarily meant the Charles and Neponset rivers as early inland routes as well as sources of fresh water, fish and other game food, and power for early businesses such as grinding mills. The rivers were also altered, bridged, dammed, and diverted as development proceeded.

As soon as settlers landed, of course, they also began making their way upon land. First largely by foot, following early Native American trails or creating new "desire paths" – footways that literally took the path of least resistance by going around natural

obstacles such as hills and lowlands. Many of these paths soon became crude roads and then city streets. Ferries and then bridges also became early and important parts of overland travel. The first span across the Charles River was completed in 1786, for example, but this bridge had been proposed as early as 1720.

Railroads were first built in Boston during the 1830s and grew rapidly as a means of moving both people and goods swiftly over greater distances. The advent of railroad technology made possible the extensive filling in and building up of tidal flats and lowlands, and the creating of new neighborhoods. This technology made possible not only greater carrying capacities, but also furthered the development of steam engines that were used to power locomotives hauling the fill-laden cars and to power steam shovels to replace pick-and-shovel efforts by humans. The Back Bay and South End are just two major examples of neighborhoods made possible by these new technologies.

Toward the end of the 19th Century, rails also were used to convey horse-drawn trolleys and later became the roadbeds for electrified above-ground trolleys and subway lines. The advent of mass transit caused many hitherto far-flung areas around Boston to become convenient to the city core. Thus, what have been called "streetcar suburbs" grew along trolley lines in Roxbury, Brighton, Dorchester, and other areas around Boston.

Air travel in Boston developed in the last century when Logan International Airport started during the 1920s on the mud flats of East Boston. Today, both passenger and freight uses have greatly expanded at Logan, in part taking up the slack of gradually diminished ship-borne services to and from Boston.

The following sections will take a closer look at current and future transportation plans and issues in Boston.

Roads

The variety of road service in Boston ranges from narrow cobblestone alleys on Beacon Hill dating back several centuries to the massive Big Dig – the widening and burial of the Central Artery that was followed by the removal of the elevated portion previously in use. The Big Dig has not only removed the physical barrier of the elevated artery, but has also created about 30 acres of new parks and green space downtown.

As the ownership of privately owned vehicles increases, the burden of ever-growing traffic adversely impacts on the quality of life in the city, as well as in the surrounding metropolitan area. From residential neighborhoods where merchants and residents call for more parking to the heavily-used Interstate Highway System that cuts through and surrounds Boston, the conflict between personal choices and public good remains unresolved. Roads are an important spoke of the transportation wheel serving Boston. At the same time, traffic delays and air, water, and noise pollution are constant reminders of the cost of such a transportation system.

A few statistical snapshots underline these observations:

- According to the 2000 Census, at least 85% of the region's households and 65% of Boston households owned at least one vehicle.
- The automobile ownership rate in Boston increased 31% between 1990 and 2000.
- Between 1970 and 2000, vehicle miles traveled in the region have increased by 75% while the population grew by only 10%.
- Vehicle miles traveled continue to increase much faster than the population. By 2020, vehicle miles traveled are expected to increase by 26%, but the population is projected to grow by only 5%.
- In 1990, of about 500,000 daily commutes, 224,000 of them – about 43%–took place in a vehicle with a single occupant.
- Although Boston's historic core was not designed for the automobile, each day more than 600,000 vehicles are driven into the downtown.
- The growing number of vehicles on Boston's roadways are not only coming from other communities: in the year 2000, more than 376,000 cars were registered in Boston, an increase of 12.6% since 1999 alone.

Air

In an urban area, both parks and airports can compete for land. The Frederick Law Olmsted-designed Wood Island Park in East Boston, completed in 1895, was sacrificed for airport expansion in the 20th century.

Yet, Logan International Airport is undeniably a critical commercial, communication, and travel link between Greater Boston and the rest of the world. This is reflected in a few statistics from the past decade. According to figures from Massport:

- In 1990, Logan handled 22,878,191 passengers. In 2000 that figure had grown to 27,412,926 – an increase of 8.3 percent.
- In 1990, 683,434,975 pounds of cargo moved through the airport. By 2000 there were 852,347,154 pounds – 8 percent growth.
- In 1990, 119,818,113 pounds of mail passed through Logan. For 2000 that number was up to 194,902,513 pounds, reflecting a 6 percent increase.

A significant increase in business at the airport has resulted in additional expansion: New airport hotels and terminal buildings, a third harbor tunnel to increase vehicular access, and more parking spaces.

In addition, Massport and the air carriers using Logan have constructed a new airport runway to alleviate congestion. Strong neighborhood opposition delayed the runway for decades, but it was opened in 2006. Opponents contended that an additional runway would have a direct and detrimental effect on the quality of life in neighborhoods that exist under Logan's flight patterns. Opponents cited not only the noise and pollution caused by additional aircraft flying near them but the increase in cars making their way to the airport as well.

As part of its efforts to mitigate the airport's negative impact on surrounding communities, especially East Boston, Massport has built and maintains Piers Park, located on the site of a formerly dilapidated dock. An additional park is planned for an adjacent pier, while the 10-acres Bremen Street Park, located adjacent to the Airport MBTA stop on a former rail yard, opened in 2007. This multi-use park was funded by the Massachusetts Turnpike Authority and will be maintained by Massport.

Rail and Bus Transit

In response to the crush of automobiles heading into and out of Boston, the MBTA has been re-opening commuter rail lines that had been shut down with the advent of the Interstate Highway System in the 1960s. For example, service to the South Shore, New Bedford, and Fall River has been restored, while the 18-mile long Greenbush Line to the South Shore opened in 2007.

Closer to home, the MBTA is currently working on an Urban Ring system and the connection of the Silver Line segments in the South

Station-South Boston waterfront-Logan Airport area and the downtown-South End-Roxbury area.

The Urban Ring would loop from Dorchester to Roxbury, Fenway, Allston, Cambridge, Somerville, Charlestown, and East Boston. The Ring would connect such new job sources as biomedical research areas, high tech clusters, and Logan Airport with older residential neighborhoods, avoiding the need to travel into the congested center of the transit system. It would also make open spaces more accessible along its route, such as the South Bay Harbor Trail, the Emerald Necklace, the Southwest Corridor Park, and the Charles River Reservation. Some open spaces may even be created in the Urban Ring corridor as a result of its implementation. Basically, the Urban Ring will be a circumferential transit route to connect the spokes of the existing metropolitan transit system and will serve more than 250,000 people who live within walking distance of the Ring's corridor. Of the Urban Ring's three phases, Phase 1 has been accomplished: Improved bus rapid transit (BRT) along segments of the planned Urban Ring corridor.

The Silver Line links the developing South Boston seaport district with Chinatown, the South End, Lower Roxbury, downtown and Logan Airport, utilizing restricted rights-of-way or tunnels. The project has also resulted in a new park along Fort Point Channel, and pedestrian and bicycling accommodations in the Washington Street portion of the corridor in the South End. The Silver Line thus increases access to waterfront open spaces at the Fort Point Channel and South Boston Seaport districts from inland Boston neighborhoods. Still to be determined is the alignment of the final phase of the Silver Line, specifically, where the portal for the final one-mile tunnel will be located.

More directly affecting the city's park system are such smaller changes such as redirecting an MBTA bus route to better serve the 103.6-acre Millennium Park in West Roxbury.

Water

Waterborne transportation in Boston over the course of nearly 300 years has undergone many changes. Yet the sea and the harbor continue to be important avenues of international commerce although Boston's share of this trade has fallen behind other port cities such as New York and Montreal. For example, today cruise liners calling in Boston are a bigger business than container ships. Harbor channel maintenance dredging under the direction of the

US Army, Corps of Engineers is expected to be completed by the end of 2008; permitting is now underway for a channel deepening project to enable larger container cargo ships to enter the Port of Boston.

However, in recent years the city and other communities have revived and expanded one of the earliest forms of transportation utilized in the early days of the colony: water ferries. Different parts of Boston as well as the surrounding environs continue to be separated by water. Thus, as the area's population and development densities continue to increase, ferry service will become a more viable alternative to clogged highways and packed transit trains.

The Boston Harbor Islands park system, now being developed by a consortium of governmental agencies and other entities, including the Parks Department, will only add to the demands for additional water transportation. Private ferries transport visitors to Georges Island from the Long Wharf dock. From there, a state-subsidized water taxi service provides free transit to several other harbor islands. Lowering the cost of the private ferries to enable a broader range of passengers to access the islands will be an ongoing concern of harbor island park management.

The most recent major change in the Harbor Islands is the reconstruction and expansion of Spectacle Island, which opened to the public in 2006. This 114-acre site was in part created with Big Dig dirt, used to cap a landfill on the island. Spectacle Island is owned by the Massachusetts Department of Conservation and Recreation and the City of Boston. The Island Alliance and the National Park Service assist the owners with island management. Spectacle Island features a marina, visitor center, café, two sandy beaches and five miles of walking trails that lead to the crest of a 157 foot-high hill.

WATER AND SEWER SERVICE

The water that enters Boston homes, businesses, and institutions and then leaves as sewage requiring treatment is the responsibility of two public agencies: the Massachusetts Water Resources Authority (MWRA) and the Boston Water and Sewer Commission (BWSC).

In addition to Boston, the MWRA supplies water to 60 other Massachusetts communities, where 2.5 million people are served in

890,000 households. The water – some 230 million gallons daily – comes from the Quabbin Reservoir, 65 miles west of Boston, and the Wachusett Reservoir, 35 miles west of the city. From there the water supply is conveyed via aqueducts from the two reservoirs to the Weston and Norumbega reservoirs where it is held for delivery to BWSC's service networks.

When MWRA water reaches Boston, after passing through treatment plants, storage tanks, and aqueducts, the Boston Water and Sewer Commission takes over. The BWSC was created in 1977 to maintain and improve the long-term quality and reliability of water and sewer services in Boston. Today, BWSC's primary goals are efficient delivery of service, environmental protection, and cost control. Accordingly, it is necessary for BWSC to maintain and improve the water distribution and sewer systems and to provide the highest quality water and sewer services at the lowest possible cost to customers.

BWSC owns and operates a system for the distribution of drinking water to customers throughout the city. BWSC purchases water (disinfected and fluoridated) from the MWRA. BWSC is the MWRA's largest single customer for both water and sewer services, and MWRA charges represent the largest single component of BWSC's operating expenses.

The Boston Water and Sewer Commission's current water distribution system consists of approximately 1,096 miles of pipe which range in size from 4 inches to 48 inches, including almost 17 miles of high pressure fire service pipe located in downtown Boston, 13,074 hydrants, and 16,885 valves. The system serves approximately 88,000 accounts through four major service networks. These service networks are supplied with potable water purchased from the MWRA at 29 metered delivery points.

In addition to water delivery throughout the city, the Boston Water and Sewer Commission owns and operates a system for the collection and transport of wastewater and storm drainage in Boston. The sewer system consists of conduits ranging in size from six-inch clay lateral sewers to 20-foot by 15.5-foot concrete culverts. The 1,450-mile sewer system is comprised of approximately 600 linear miles of sanitary sewers, 550 miles of storm drains, and 300 miles of combined sewers. Other facilities include eight pumping stations, two gatehouses, 40 permitted combined sewer overflow outlets, 185 regulators, and 200 tide gates.

Two former sewerage works under BWSC control hold potential for open space use: Calf Pasture in Dorchester, along Dorchester Bay, and the Moon Island facility, which may hold promise for future use as part of the Boston Harbor Islands park system.

Historically, water services had a more modest beginning in colonial Boston. Early settlers relied on water from cisterns and underground wells, but the quality was poor and the supply inadequate. The first attempt to provide an alternative came from a private company; in 1796, the Aqueduct Corporation began delivering water from Jamaica Pond through a system of wooden pipes.

In 1848, Boston obtained its first municipal water supply from Lake Cochituate via the Cochituate Aqueduct and the Brookline Reservoir. In order to meet the growing needs of Boston and the necessary system expansion, construction began in 1866 on the Chestnut Hill Reservoir. Construction of reservoirs on the Sudbury River to feed the Chestnut Hill Reservoir through the Sudbury Aqueduct soon followed. The Metropolitan Water District was formed in 1895 and by 1908 the Wachusett Dam, Reservoir, and Aqueduct were completed.

By the early 1900s, it was apparent that the Boston metropolitan area required additional water supplies and a more comprehensive plan to ensure its delivery. The MDC Water Supply Division was created in 1926 as a solution to this problem and was responsible for building many MDC facilities, among them Quabbin Reservoir, the Quabbin Aqueduct, and the Hultman Aqueduct. (A 17-mile MetroWest Water Supply Tunnel is now under construction. It will provide backup to the nearly 60-year old Hultman Aqueduct.)

In 1985, legislation transferred the possession, control, and operation of the MDC Water and Sewerage Divisions to the newly created Massachusetts Water Resources Authority. Today, all wastewater collected by BWSC facilities are conveyed to the MWRA's Deer Island Treatment Plant for both primary and secondary treatment. The MWRA has created a 44-acre park that surrounds the plant, thus offering a harbor island experience accessible by land.

The Deer Island Treatment Plant is part of a cleanup of Boston Harbor ordered by a federal court. The MWRA and it predecessor agency, the Metropolitan District Commission, were found in violation of both state and federal clean water laws. The court ordered the MWRA to build the wastewater and sludge facilities as

well as improved combined sewer overflow facilities, all on a court-set schedule.

These sewer renovations and the wastewater and sludge treatment made up the largest public works project ever to be built in New England up to that time and had a final cost estimated at up to $6.1 billion (the Central Artery/Tunnel Project was finished later, and cost considerably more). This massive undertaking included a 9-mile effluent tunnel to carry treated water hundreds of feet below Boston Harbor and into Massachusetts Bay.

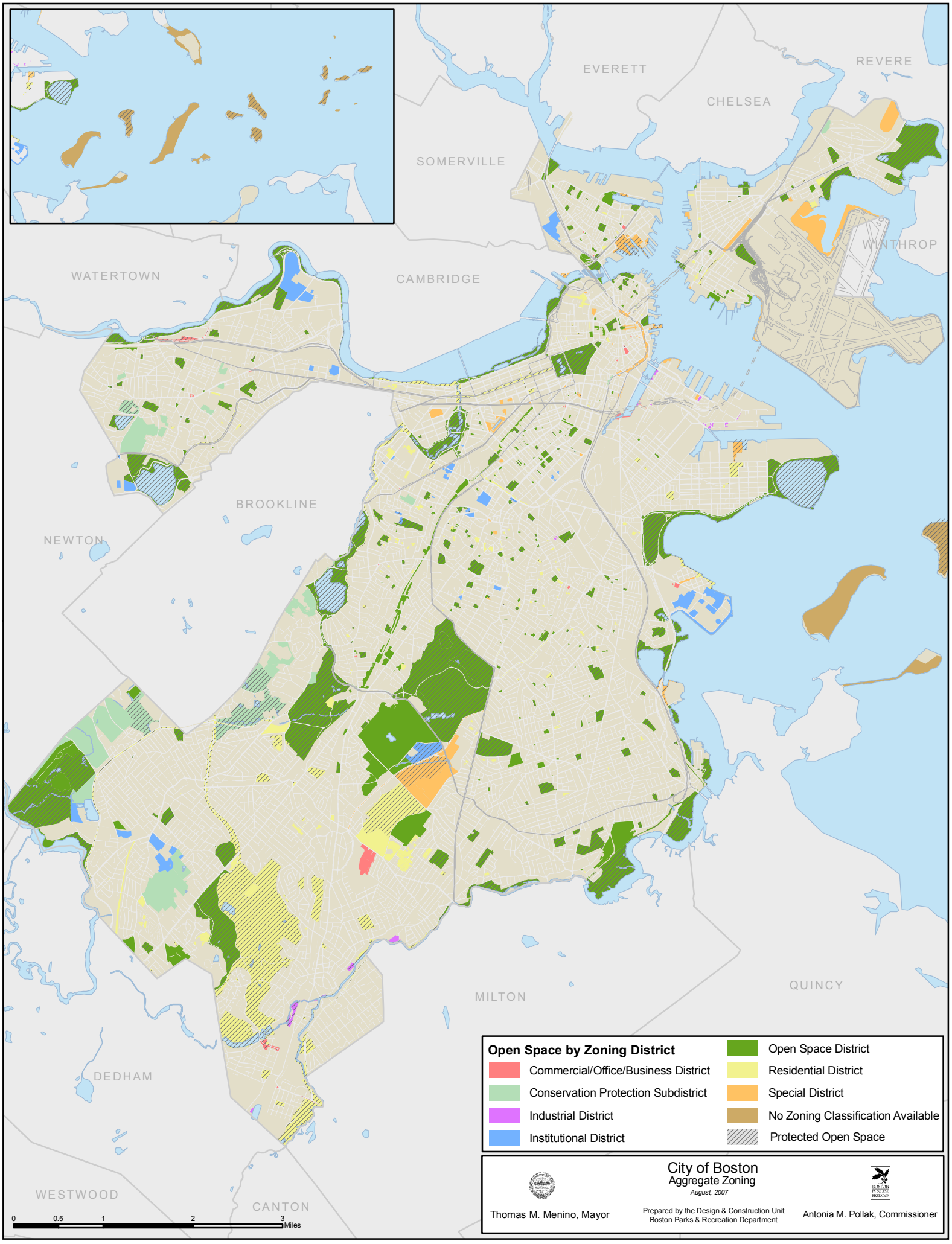
The scope of this undertaking is driven by the 2.5 million people, almost half of the state's population, and the 5,500 businesses and industries that send their waste to Boston Harbor. It is also driven by the vast scope of the Boston waterfront, where commercial, residential, and recreational interests have been positively affected by the cleanup of the harbor waters. The DCR harbor beaches are completing a rebuilding program to accommodate projected increases in their use as word spreads of the cleaner harbor water.

LONG-TERM DEVELOPMENT PATTERNS

Zoning

The major local land use control is zoning. A municipal zoning code states what development will be allowed within designated districts of a city. The City of Boston Zoning Code designates both citywide districts and special districts. Citywide districts apply the same rules for the same uses: a single-family residential district in one neighborhood will get the same treatment as one in another neighborhood. Special districts are specific to certain areas because of the particularities of the area or because a certain land use pattern is desired in a specific area for economic development or other reasons of public benefit.

There are several citywide districts: Industrial Districts, Commercial/Office/Business Districts, Institutional Districts, Residential Districts, and Open Space Districts (please see Aggregated Zoning map). Within each general District are various sub-districts that provide more precise detail. For example, a residential district can be designated both where a 20-story apartment tower is located in the Back Bay, and where triple-deckers are located in Dorchester. However, a specific residential sub-district would be designated in particular areas so that 20-story apartment towers are not built in the triple-decker neighborhoods of Dorchester, nor is zoning restricted to the construction of triple-


EVERETT
REVERE
CHELSEA
SOMERVILLE
WINTHROP
WATERTOWN
CAMBRIDGE
BROOKLINE
NEWTON
MILTON
QUINCY
DEDHAM
WESTWOOD
CANTON
0 0.5 1 2 3 Miles
Open Space by Zoning District
Commercial/Office/Business District
Conservation Protection Subdistrict
Industrial District
Institutional District
Open Space District
Residential District
Special District
No Zoning Classification Available
Protected Open Space
City of Boston
Aggregate Zoning
August, 2007
Thomas M. Menino, Mayor
Prepared by the Design & Construction Unit
Boston Parks & Recreation Department
Antonia M. Pollak, Commissioner

deckers placed where a 20-story apartment tower would be appropriate in a dense, downtown neighborhood.

Of interest to open space and environmental activists is a special type of residential sub-district, the Conservation Protection Subdistrict. As the city has gone through a slow re-zoning, neighborhood by neighborhood, the Conservation Protection Subdistrict (CPS) has become a presence in more parts of the city. These CPS zones are typically established on large privately-owned tracts that possess some natural features deemed worthy of protection and preservation. Rather than use the standard residential zoning that as-of-right allows for demolishing of natural features for the sake of constructing housing if the final structure remains within a spatial envelope outside the front, rear, and side yards, the CPS zones mandate that the site plan be reviewed first by the Boston Redevelopment Authority (BRA) planners. These planners will look to see if the site plan protects large-diameter trees, stream beds, wetlands, and other natural features, wherever they appear on the site. In exchange, the CPS zone will allow higher density if the development envelope is significantly narrowed over what would be allowed by as-of-right zoning.

Open space zoning is generally designated for lands in public ownership that are currently used for open space purposes. This zoning class can provide an additional level of protection to lands protected by Article 97. The City of Boston Zoning Ordinances do include zoning for open spaces. Open space zoning prohibits or limits to varying degrees the development of open space lands. The type of open space typically governs what degree of development can be allowed. The Open Space-Urban Wild subdistrict allows far less development than the Open Space-Urban Plaza subdistrict. The protection of open space zoning has limitations, as zoning is subject to change, and variances and special permits may be granted thereby allowing development or alternative use of open space lands which may not be in accord with the goals of, or intentions for, the open space. (Also many protected open spaces are not yet zoned as open space districts or sub-districts. Please see the map titled Aggregated Zoning of Open Spaces.) It is important to note that many, if not most, of the city's privately-owned open spaces are not zoned for open space use, but rather for residential, industrial, institutional, or commercial use, and are therefore not protected by zoning. Private owners who do so desire may have their property zoned for open space.

Maximum Build-Out

The idea of maximum build-out is a display of the results of all allowable development upon all developable land. This is a concern to open space planners because potential open spaces that are not protected by ownership by a public agency dedicated to open space use and management may be developed and lost to best use as an open space for general public benefit.

In the late 1990s, this concern led the Executive Office of Environmental Affairs (EOEA, the predecessor agency to the Executive Office of Energy and Environmental Affairs [EOEEA]) to have the state's regional planning agencies (RPAs) generate maximum build-out scenarios for municipalities within their region. For Boston, the relevant RPA is the Metropolitan Area Planning Council (MAPC). However, the results are not available. Given the complexity of Boston's zoning code, only two small areas were attempted for the build out analysis, Sullivan Square in Charlestown, and Kenmore Square in Back Bay/Beacon Hill and Fenway/Kenmore. As a results of these attempts, it was deemed infeasible to go further with a build out analysis in the city of Boston (Correspondence with Marc Racicot, Manager of Government Services, Metropolitan Area Planning Council, dated January 11, 2008). It was also understood that most new development in Boston is located in areas where development has already occurred.

Some sense of the possibilities for losses of potential public open space can be seen in the Aggregate Zoning map mentioned earlier. This map shows the general zoning districts for open spaces of conservation and recreation interest identified in Section 5's Open Space Inventory. Open spaces with the cross-hatching are ones deemed protected; the protection for these lands actually is stronger than the zoning, and supercedes it. That is, if a protected area such as Stony Brook Reservation in Hyde Park is zoned for residential development, that zoning will not be effective given that it is protected from development by Article 97, as it is being held by a state agency for open space use and management.

Open spaces without the cross-hatching are not considered protected in perpetuity. The zoning of these parcels can be a more critical factor. However, each case needs to be examined as in some cases, development will be limited for other reasons. The athletic fields at Harvard University are unlikely to be developed given that Harvard's mission is to develop students' minds and bodies: therefore, their institutional needs will limit development in these areas. The former Catholic Archdiocese lands in Brighton

have become part of the plans for a Boston College campus expansion. These lands have the CPS zoning, so that a site plan will be reviewed as part of campus development to ensure that valued natural features will not be demolished during the development process. Again, a college will likely seek to preserve open space values as part of creating a new "campus" (Latin for "field").

How these unprotected areas may be protected from development is the subject of much of Section 7, Analysis of Needs. The chapters in this section give a much more detailed flavor for each individual case where development is possible.

The most significant local land use control and development review process is Article 80 of the City of Boston Zoning Code. The Large Project Review procedure calls for review of various environmental impacts: wind, shadow, daylight, solar glare, air quality, water quality, flood hazard districts, wetlands, groundwater, solid and hazardous wastes, noise, wildlife habitat, pedestrian environment, historic resources, and green building/LEED compliance. These are discussed in a report called the Draft Project Impact Report. City agencies including the Boston Parks and Recreation Commission and the Boston Conservation Commission help develop the scope for preparation of this report, and review the draft report when it is made available.

The effect of all the effort by the Boston Redevelopment Authority, the Department of Neighborhood Development, the Boston Conservation Commission, and the Boston Parks and Recreation Commission on protection of open space in the development process can be seen in the scores Boston has received in its Commonwealth Capital applications. Commonwealth Capital is a program of the state's Smart Growth policy, that rates municipal policies and practices that promote smart growth, including open space protection. The application were issued in fiscal years 2005, 2006 and 2008. In FY05, the score was 101; in FY06, the score was 89; and in FY08, the score was 94. The maximum score is 140, including bonus points. These high scores show the city's continual attention to achieving smart growth principles through its development review process. It gives a sense as to why maximum build out will not likely be approached through the normal course of the city's development.

Section 3.5: CITY-REGION RELATIONS REGARDING OPEN SPACE

STATEMENT OF RELATIONSHIP TO THE MAPC METROGREEN PLAN

Open space is a major concern not only in urban development, but also in regional development. In light of the leadership provided by the Metropolitan Area Planning Council (MAPC) as regards planning for open space protection in regional development, we are providing the following statement outlining the relationship of this open space plan to MetroGreen, the Land Resources Protection Element of the MAPC Regional Development Plan (MetroPlan).

Based on conversations with MAPC staff, we considered it best to refer users of this plan to our statement of Boston's open space plan's relationship to MetroGreen found in the 2002-2006 plan (please see pages 469-475 of that plan). This is both because this present plan is an update of the 2002-2006 plan, but more importantly, MetroGreen, issued in 1992, is considered by the MAPC staff outdated.

Further, the MAPC has been undertaking to develop a new metropolitan regional plan called MetroFuture. By early 2008, they hope to issue drafts of the MetroFuture plan for comment. While this 2008-2014 open space plan was completed before the MetroFuture draft was issued, the City and the Boston Parks Department intend to participate in the comment period for this draft regional plan. Further, we expect to consider appropriate aspects of the regional plan's implementation strategy as future city open space plans are developed, as well as for ongoing open space planning efforts.