

Spotlight Series Greater Boston

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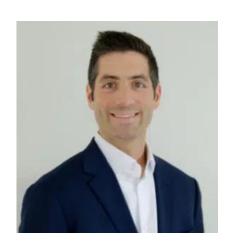
Our Panelists



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Greater Boston

The leading economic region of New England, regarded as the greatest life sciences cluster in the world, and one of its leading financial centers, the region continues to be a hub of global innovation and growth. A sum of its parts, it has no greater asset than its highly educated workforce that continues to attract the best and brightest talent, included 350,000 college students annually, from around the world to its welcoming, cosmopolitan leading cities of Boston and Cambridge.

Greater Boston – Challenges are out there

Economic Inequity:

Massachusetts has the 6th biggest wealth gap by race In U.S at 49.37%

Source: Wallethub, 2022.

High Cost of Living:

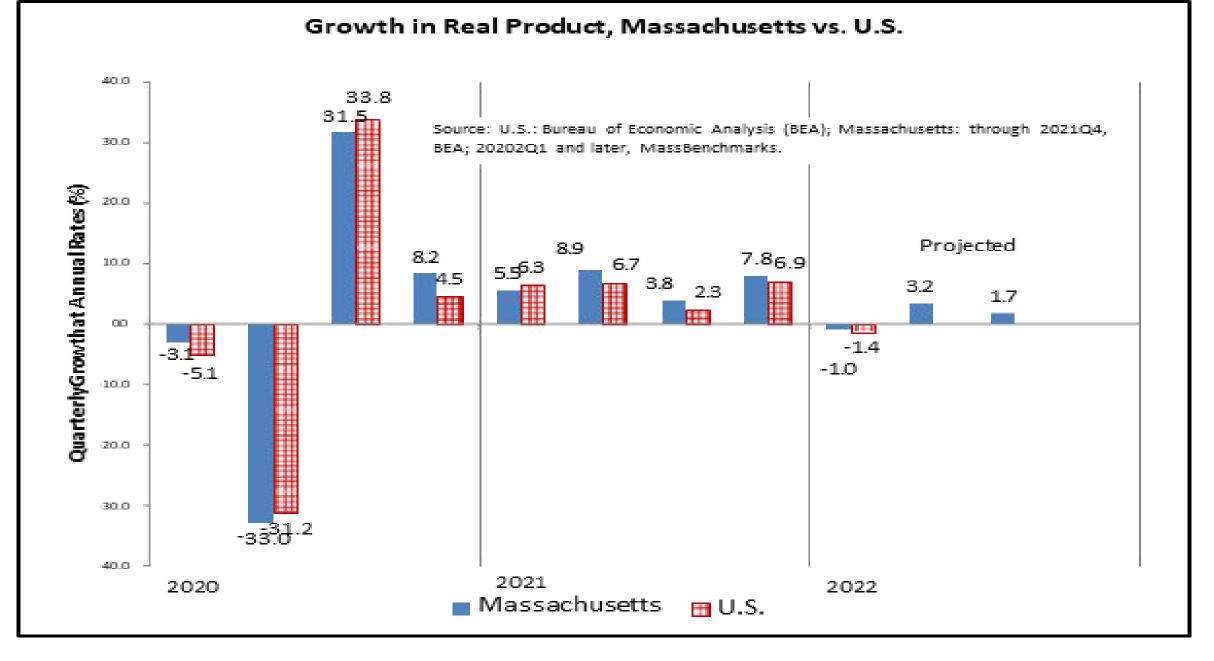
Cost of Living Index (Boston Region v. US) 132.6

Median Selling Price of Greater Boston, April 2022:

\$845,000

11% increase over April 2021

Source: GREB, 2022.



Greater Boston – Employment and Wages are UP...as is inflation

Employment and Earnings Growth at Annual Rates, Massachusetts and the U.S.

	Pay	roll	Wage ar	nd Salary
	Employ	yment	Income /1	
	MA	US	MA	US
2022Q1	5.2%	4.8%	12.6%	8.1%
2021Q4	4.2%	4.9%	11.3%	10.9%
21Q1 to '22Q1	5.3%	4.6%	9.6%	11.1%

Sources: U.S. Bureau of Labor Statistics; U.S. Bureau of Economic Analysis; MassBenchmarks.

1. Massachusetts and U.S. wage and salary income for 2022Q1 is estimated by MassBenchmarks.

CPI Inflation, Boston Metro and the U.S.					
	All It	ems	Со	re	
	BOS	US	BOS	US	
2022Q1	10.8%	9.2%	8.1%	6.5%	
2021Q4	6.6%	7.9%	2.5%	5.6%	
21Q1 to '22Q1	6.8%	8.0%	4.9%	6.3%	

Sources: Bureau of Labor Statistics, CPI-U; Core inflation excludes food and energy. Quarterly CPI for Boston is the average of the first and third months for quarters 1 and 3, and the mid-month for quarters 2 and 4.

Travel Time to Work – Longest Commutes in minutes (Not the list you would expect!)

Rank	City	Avg. commute time (minutes)	Commuters traveling 45+ min. (%)
1	Temescal Valley, California	47.7	55.2%
2	Antioch, California	46.4	49.7%
3	Waldorf, Maryland	46.1	52.2%
4	Poinciana, Florida	45.7	51.2%
5	Brentwood, California	45.1	47.5%
6	Tracy, California	44.5	47.5%
7	Los Banos, California	44.5	47.4%
8	Graham, Washington	43.6	43.2%
9	Richmond West, Florida	43.5	47.1%
10	Cutler Bay, Florida	43.3	47.2%

Travel Time to Work Indicators for Metropolitan Areas With Population of at Least 1 Million: 2019

Rank	Metro Area	Mean Travel Time
1	New York-Newark-Jersey City, NY-NJ	36.3
2	Washington-Arlington-Alexandria, DC-VA	34.6
3	San Francisco-Oakland-Hayward, CA	32.8
4	Riverside-San Bernardino-Ontario, CA	32.1
5	Stockton-Lodi, CA	32
6	Chicago-Naperville-Elgin, IL	31.6
7	Atlanta-Sandy Springs-Roswell, GA	31.4
8	Boston-Cambridge-Newton, MA	31
9	Baltimore-Columbia-Towson, MD	30.8
10	Bridgeport-Stamford-Norwalk, CT	30.4
11	Seattle-Tacoma-Bellevue, WA	30.1
12	Los Angeles-Long Beach-Anaheim, CA	30

US Average One-way Travel time:

26.4 minutes

Greater Boston

30.8 minutes

We have the 3rd Largest Light Rail Transit System in the US

Rank	Name	City	Annual Ridership	Daily
1	Metro Rail light rail:[note 1]	Los Angeles	51,395,800	161,300
2	Muni Metro ^{[note 1][3]}	San Francisco	49,519,600	157,700
3	MBTA light rail:[note 1]	<u>Boston</u>	47,161,500	137,700
4	MAX Light Rail ^[note 3]	<u>Portland</u>	38,388,200	119,600
5	San Diego Trolley ^[note 3]	San Diego	38,047,300	117,700
6	DART ^[note 3]	<u>Dallas</u>	28,069,000	92,000
7	Link:[note 3]	<u>Seattle</u>	25,050,800	81,200
8	Denver RTD:[note 3]	<u>Denver</u>	24,585,300	95,300
9	SEPTA light rail:[21][note 1]	<u>Philadelphia</u>	24,321,200	66,633[n ote 4]
10	METRO Light Rail[note 3]	Minneapolis-St. Paul	24,299,400	75,300



Source: American Public Transportation Association (APTA), Feb. 2020.

. . . and the 4th Largest Heavy Rail Transit System

Rank	Name	System	Primary City	Annual ridership	Avg. weekday ridership	System Length	Rider. per mile
1	New York City Subway	New York City Transit Authority ^[note 1]	New York City	2,723,960,100	9,117,400	248 miles	37,214
2	Washington Metro	Washington Metropolitan Area Transit Authority	Washington, D.C.	237,701,100	816,700	<u>117 miles</u>	6,980
3	Chicago "L"	Chicago Transit Authority	<u>Chicago</u>	218,467,000	695,300	102.8 miles	6,764
4	MBTA subway	Massachusetts Bay Transportation Authority	Boston	152,339,700	475,300	38 miles	12,508
5	Bay Area Rapid Transit (BART) ^[note 3]	Bay Area Rapid Transit District	San Francisco Bay Area	123,510,000	421,100	112 miles	3,760
6	<u>PATH</u>	Port Authority of New York and New Jersey	Manhattan; Huds on County, and Newark	90,276,600	306,700	13.8 miles	22,225
7	SEPTA ^[note 4]	Southeastern Pennsylvania Transportation Authority	<u>Philadelphia</u>	90,240,800	329,200	36.7 miles	8,970
8	MARTA rail	Metropolitan Atlanta Rapid Transit Authority	<u>Atlanta</u>	63,998,500	175,338[note 5]	47.6 miles	3,684
9	Metro Rail ^[note 4]	Los Angeles County Metropolitan Transportation Authority	Los Angeles	41,775,100	130,900	17.4 miles	7,523
10	<u>Metrorail</u>	Miami-Dade Transit	<u>Miami</u>	18,073,100	62,600	24.4 miles	2,566



There are only 14 heavy rail systems in the U.S.

Most competitor metropolitan areas have no such system.

Many lack any rail transit.

Source: American Public Transportation Association (APTA), Feb. 2020.

2019 Rank	Port	TEUs (cargo unit)	2017 Rank	% of Change
1	Los Angeles	5,039,363	1	5.40%
2	Long Beach	4,364,771	2	6.80%
3	Newark/New York	4,196,372	3	12.80%
4	<u>Savannah</u>	2,223,628	4	10.80%
5	<u>Houston</u>	1,811,737	5	6.00%
6	<u>Seattle</u>	1,567,803	8	27.50%
7	<u>Norfolk</u>	1,312,476		1.50%
8	<u>Tacoma</u>	1,217,316	6	-9.50%
9	<u>Charleston</u>	1,210,214	9	2.60%
10	<u>Oakland</u>	1,070,642	10	9.40%
11	<u>Miami</u>	750,801	12	20.80%
12	Port Everglades	728,461	11	2.00%
13	<u>Philadelphia</u>	526,056	14	12.10%
14	<u>Baltimore</u>	508,802	13	8.10%
15	New Orleans	344,697	15	17.00%
16	<u>Jacksonville</u>	266,226	16	-3.70%
17	Willmington, DE	196,994	18	3.40%
18	<u>Mobile</u>	174,430	19	10.80%
19	<u>Boston</u>	162,221	21	10.00%
20	West Palm Beach	161,183	20	9.20%

Port of Boston is BIG SHIP READY

An \$850M investment modernized and expanded Conley Terminal, dredged Boston Harbor, and added three large ship-to-shore cranes. With a new deepwater berth, and a deepened Boston Harbor, Conley is now suited to serve larger vessels carrying up to 14,000 TEUs.

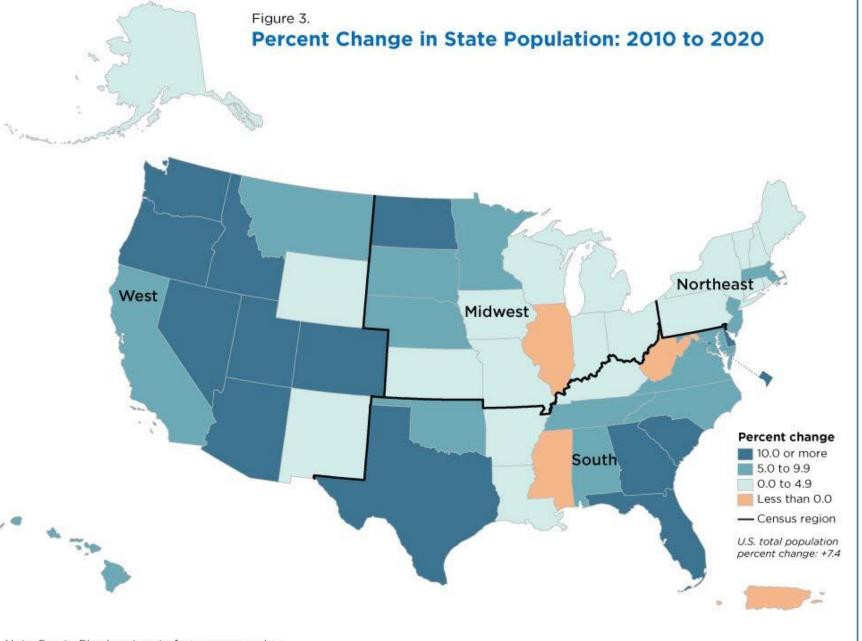


Source: Panjeva, 2019

Logan International 10th Ranked International Airport in the U.S. (by # airlines)

Name	City	Airlines	Destinations	Passengers
John F Kennedy International Airport	New York	74	162	31
Los Angeles International Airport	Los Angeles	62	149	42.8
Chicago O'Hare International Airport	Chicago	46	206	40.8
Miami International Airport	Miami	43	135	21.2
San Francisco International Airport	San Francisco	42	104	27.7
Washington Dulles International Airport	Washington	39	126	11.8
Hartsfield Jackson Atlanta International Airport	Atlanta	37	217	53.4
Newark Liberty International Airport	Newark	35	153	23
Orlando International Airport	Orlando	35	102	24.5
Logan International Airport	Boston	34	103	20.7
McCarran International Airport	Las Vegas	34	133	24.4
Seattle Tacoma International Airport	Seattle	33	90	25
Louis Armstrong New Orleans International Airport	New Orleans	33	39	6.9
Dallas Fort Worth International Airport	Dallas	33	187	35.6
Bush Intercontinental Houston Airport	Houston	32	169	21.9

Source: Stratosjets.com 2022



Note: Puerto Rico is not part of any census region.

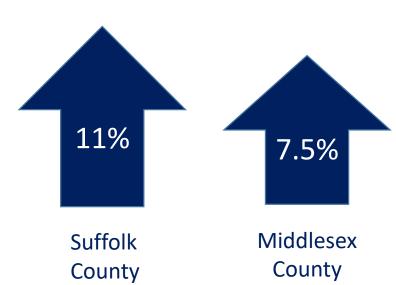
Information on confidentiality protection, nonsampling error, and definitions is available at https://www2.census.gov/programs-surveys/decennial/2020/technical-documentation/complete-tech-docs/summary-file/.

Source: U.S. Census Bureau, 2010 Census Redistricting Data (Public Law 94-171) Summary File; 2020 Census Redistricting Data (Public Law 94-171) Summary File.

2010-2020 **Population Growth**

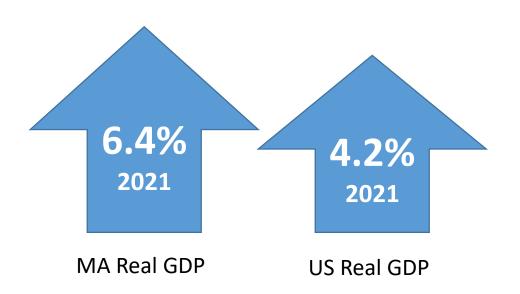


Massachusetts (same as US)



Massachusetts GDP – Consistent High Performance

Out of all 50 states, Massachusetts had the highest per-capita real gross domestic product (GDP) in 2019, at \$75,258.



Greater Boston is a Big Economic Engine

The Greater Boston Region accounts for about 60% of Massachusetts GDP

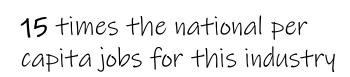
Suffolk County alone has a greater GDP that 13 states

Suffolk and Middlesex combined would have a greater GDP than 29 states

Sample Suffolk County High Concentration Industries, Q4 2021



Industry	Entities	Employees	LQ
NAICS 523920 Portfolio management	403	16,278	15.04
NAICS 523999 Miscellaneous financial investment activities	95	1,353	10
NAICS 541714 Research and development in biotechnology (except nanobiotechnology)	236	11,139	9.03
NAICS 611310 Colleges and universities	47	34,104	5.93
NAICS 311710 Seafood product preparation	10	768	5.86
NAICS 523930 Investment advice	248	5,741	5.59
NAICS 523120 Securities brokerage	144	6,469	4.93
NAICS 541310 Architectural services	220	4,093	4.57
NAICS 524113 Direct life insurance carriers	31	4,579	4.13
NAICS 622110 General medical & surgical hospitals	18	77,582	3.57
NAICS 541211 Offices of certified public accountants	99	8,184	3.48
NAICS 511210 Software publishers	426	8,949	3.32
NAICS 541110 Offices of lawyers	925	15,088	3.06
NAICS 524126 Direct property and casualty insurers	45	6,040	2.93
NAICS 541690 Other technical consulting services	227	2,765	2.87
NAICS 541511 Custom computer programming	752	13,512	2.74
NAICS 522110 Commercial banking	216	11,003	1.75



4.13 times the national per capita jobs for this industry

These industries alone accounted for \$11 billion in regional payroll in Q4 2021.

Sample Middlesex County High Concentration Industries, Q4 2021



Industry	Entities	Employees	LQ
NAICS 334516 Analytical laboratory instrument mfg.	56	5,453	21.21
NAICS 541715 R&D in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	660	23,334	7.61
NAICS 334510 Electromedical apparatus manufacturing	23	3,142	6.69
NAICS 334515 Electricity and signal testing instruments	18	1,364	5.82
NAICS 511210 Software publishers	722	20,261	5.63
NAICS 611310 Colleges and universities	60	39,027	5.08
NAICS 522120 Savings institutions	190	2,256	4.04
NAICS 334511 Search, detection, & navigation instruments	13	3,101	3.89
NAICS 334519 Other measuring and controlling device mfg.	27	841	3.82
NAICS 541713 R&D in nanotechnology	64	569	3.6
NAICS 334413 Semiconductors and related device mfg.	36	4,176	3.53
NAICS 519130 Internet publishing and web search portals	193	7,045	3.43
NAICS 524298 All other insurance related activities	50	1,681	3
NAICS 339112 Surgical and medical instrument MFG	43	2,510	2.95
NAICS 541512 Computer systems design services	976	16,614	2.43

21 times the national per capita jobs for this industry

3.89 times the national per capita jobs for this industry

What is a Location Quotient?

These industries alone accounted for \$8.9 billion in regional payroll in Q4 2021.

"Boston/Cambridge is exemplary in almost every datapoint, and benefits from higher densities and concentrations of talent."

Top 25 research life sciences talent clusters

Sized by score; As of June 2022



1	Boston/Cambridge	138.0
2	Washington, D.C./Baltimore	129.8
3	San Francisco Bay Area	126.2
4	New York/New Jersey	124.3
5	San Diego	120.3
6	Raleigh-Durham	114.8
7	Los Angeles/Orange County	113.8
8	Philadelphia	113.5
9	Seattle	109.4
10	Chicago	107.6

Massachusetts in Key Rankings

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#2 National Science Foundation funding $565 M (FY 2021)
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#3 National Institutes of Health funding \$3.3 billion (FY 2021)

#3 in Venture Capital \$22 billion (2021)

#8 in Department of Defense spending \$18.6 billion (2020)

Massachusetts, in general

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#1 Best educated workforce in the US (44% w/4-year college degree)
#1 Science and Technology Index (Milken Institute)
#1 Most Innovative State Economy (Bloomberg)
#1 Best performing public schools in U.S. (NAEP, TIMS, PISA)
#1 in Venture Capital for Life Sciences (2021)
#1 Most Energy Efficient State (ACEE)
#1 Healthiest State (National Well-being Index)
#2 in Worker Productivity (US Bureau of Economic Analysis)
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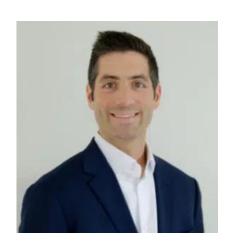
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