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How Boston Built and Lost Its Innovation Engine, What Ohio Understood That We Forgot, and What It Would Actually Take to Bring It Back

A Strategic Framework

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The Thesis

Innovation ecosystems are built by coordinated capital at scale, sustained over time, and political alignment is what keeps the value chain in place. Every major technology hub in American history traces its origin to this formula, and Boston is no exception.

Boston's decline is no mystery either: the capital pipeline that built Route 128 broke, and nothing has replaced it.

This document is an honest accounting of how Boston's innovation engine was built, why it has stalled, and what it would actually take to restart it. The answer is the same thing it has always been: massive, aligned capital deployment backed by political will, institutional commitment, and a commercialization pipeline that keeps talent and companies in Massachusetts.

Ohio has understood this, but it seems Massachusetts has forgotten it.

Part I: How Boston Was Built

The Rad Lab and the Birth of the Innovation Economy

The story of Boston as a technology capital begins with a single institution: the MIT Radiation Laboratory (the "Rad Lab"). Established in October 1940, fourteen months before the United States entered World War II, the Rad Lab became the largest cooperative research establishment in history.[1] At its peak it employed nearly 4,000 people, spent $4 million per month, and designed half of all radar deployed by the U.S. military during the war. The laboratory received $106.8 million ($1.91 billion in 2025) in government contracts, comprising 23% of all Office of Scientific Research and Development spending. Equipment of Rad Lab design accounted for $1.3 billion in radar production (approximately $23 billion in 2025).

This was a firehose of federal capital pointed directly at a single metropolitan area's research institutions, with explicit instructions to commercialize the output. In addition to radar production, the Rad Lab produced the institutional architecture that would define Boston's economy for the next half century, including the relationships between universities, defense contractors, and government funders.

When the Rad Lab closed on December 31, 1945, its functions dispersed into MIT's Research Laboratory of Electronics and, in 1951, Lincoln Laboratory, which was established to develop air defense systems. Lincoln grew rapidly to 2,000 staff and a $20 million annual budget.[2] Its first major project, the SAGE air defense network, became the largest military R&D enterprise since the Manhattan Project, which cost $8 billion. By 1946-47, MIT's research budget of $8.3 million dwarfed its academic budget of $4.7 million.[3] The university had been fundamentally transformed into a defense research engine, and the surrounding economy transformed with it.

Georges Doriot and the Birth of Venture Capital

The defense money pouring through MIT created the research output. But converting that research into companies required a financial instrument that did not yet exist. The man who created it was a French-born Harvard Business School professor named Georges Doriot, and the institution he built was the American Research and Development Corporation ("ARD"), founded in Boston in 1946.[4]

ARD was the first modern venture capital firm, the first to raise capital from institutional investors rather than wealthy families. Its founding coalition reads like a roster of Boston's

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[1] "MIT Radiation Laboratory," *Wikipedia*, last modified March 29, 2026, https://en.wikipedia.org/wiki/MIT_Radiation_Laboratory.

[2] "History," MIT Lincoln Laboratory, accessed March 2026, https://www.ll.mit.edu/about/history.

[3] Stuart W. Leslie, "*The Cold War and American Science: The Military-Industrial-Academic Complex at MIT and Stanford*" (New York Columbia University Press, 1993).

[4] Spencer E. Ante, "*Creative Capital: Georges Doriot and the Birth of Venture Capital*" (Boston: Harvard Business Press, 2008).

institutional power: Karl Compton, president of MIT; Ralph Flanders, president of the Federal Reserve Bank of Boston (later a U.S. Senator from Vermont); Donald K. David, dean of Harvard Business School; and Merrill Griswold, head of Massachusetts Investors Trust. This was a group of institutional leaders who recognized that New England's postwar prosperity depended on channeling capital into new industries.

ARD's most consequential investment was its 1957 backing of Digital Equipment Corporation ("DEC"), founded by Kenneth Olsen, an MIT researcher who had worked at Lincoln Laboratory. ARD invested $70,000 for a 70% stake. By 1971, that stake was worth $355 million.[5] DEC became the largest employer in Massachusetts and the second-largest computer manufacturer in the United States. A single investment, made possible by a financial institution created specifically to commercialize the research coming out of the defense-university pipeline, catalyzed the entire minicomputer industry and anchored Route 128 as a global technology corridor.

Doriot believed that capital's purpose was not speculation but creation. He invested in founders, not ideas. He held investment positions for a decade or more, referring to portfolio companies as his children. And he did all of this from Boston, in a firm whose investments were overwhelmingly local, generating what a Commerce Department study in 1967 ranked as the highest concentration of technology-based companies of any American city.

The lesson is often missed: Boston had an institutional mechanism, funded by the same network of university and civic leaders who oversaw the defense pipeline, that converted research into companies and kept those companies local.

And then Boston lost it. ARD was structured as a publicly traded closed-end fund, subject to SEC regulations that prohibited the stock options and carried interest that would later become standard in venture capital. Doriot's investment officers could not participate in the upside of the companies they backed, and the best of them left. Arthur Rock, who had trained under Doriot at Harvard, moved to San Francisco and financed Fairchild Semiconductor and Intel. Thomas Perkins, one of Doriot's top students, declined to succeed him at ARD because, as he later admitted, there was no way to make significant money under ARD's structure. He co-founded Kleiner Perkins in Menlo Park instead. Thomas Davis founded the Mayfield Fund on the West Coast. One by one, the people who had learned the venture capital business in Boston rebuilt it in California using the limited partnership model, which let them capture 20% of investment gains. The financial architecture of Sand Hill Road was designed in Cambridge and exported to Palo Alto.

When ARD merged with Textron in 1972, the first chapter of Boston's venture capital industry effectively closed. The center of gravity had already shifted. By the time the minicomputer

[5] "American Research and Development Corporation," Wikipedia, last modified March 21 2026, https://en.wikipedia.org/wiki/American_Research_and_Development_Corporation.

boom made Route 128 famous, the financial infrastructure that would fund the next generation of technology companies was being built three thousand miles away.

Route 128: Capital Creates Density

The ecosystem that emerged around Route 128 was not organic. It was the direct product of concentrated federal spending flowing through MIT and Harvard into a cluster of defense contractors, electronics firms, and eventually computing companies. By 1958, 99 firms and 17,000 workers were located along Route 128. By 1972, there were 1,212 firms.[6]

This is the dynamic that people describe when they talk about Silicon Valley's density, all corners a meeting place for entrepreneurs, investors, and talent. They are right about what it looks like, but they are wrong about how it is created. That density did not emerge from a brand or a program; it emerged from a sustained pipeline of capital so large that it reshaped the physical geography of a region. Defense money flowed into MIT. MIT produced researchers. Researchers spun out companies. Doriot and ARD funded them. Companies clustered near the university and near each other. Additional venture capital formed to fund them. This entire system became self-reinforcing.

The mechanism was straightforward: the federal government provided a massive, steady customer (the Department of Defense) whose contracts funded R&D, absorbed cost-plus pricing, and created a guaranteed market for the output. This was innovation with a buyer standing at the end of the pipeline with an open checkbook.

The Shipyard, the Factory, and What Was Lost

The capital pipeline did not only build high-tech labs. It built an entire industrial base. The Fore River Shipyard in Quincy, founded in 1883, became one of the largest shipbuilding facilities on the East Coast. At its peak during World War II, the Shipyard employed 32,000 workers and built 92 naval vessels, including battleships, aircraft carriers, cruisers, and destroyers, more destroyers than any shipyard in the country.[7] Joseph Kennedy worked there. "Kilroy Was Here" may have originated there. The Shipyard was Quincy's economic identity for a century.

General Dynamics closed Fore River in 1986 after failing to win a major contract since 1982, eliminating 4,200 jobs.[8] The closure was part of a national collapse: since 1981, 25 of the country's 110 shipyards had closed, shedding 20,000 jobs. For Quincy, this was existential. The Shipyard was not just a workplace; it was a pipeline that trained welders, electricians,

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[6]"Silicon Valley and Route 128: The Camelots of Economic Development," *Journal of Applied Research in Economic Development*, 2013, https://journal.c2er.org/2013/05/silicon-valley-and-route-128-the-camelots-of-economic-development/.

[7]"Fore River Shipyard," Wikipedia, last modified February 20, 2026, https://en.wikipedia.org/wiki/Fore_River_Shipyard.

[8]Barbara Bradley, "What Sank Massachusetts' Quincy Shipyard," *Christian Science Monitor*, July 26, 1985, https://www.csmonitor.com/1985/0726/fship-f.html.

engineers, and managers, a workforce development engine embedded in the community. When it closed, the skills pipeline closed with it.

This pattern repeated across Massachusetts. The state's manufacturing base, built on defense contracts, textiles, precision instruments, and heavy industry, hollowed out as contracts moved south and overseas. The story is usually told as a high-tech narrative: Route 128 rose, then Silicon Valley won. But the blue-collar version is equally important. Massachusetts lost not just minicomputer engineers to California but it lost shipbuilders to closure, machinists to obsolescence, and factory workers to global competition. The state's working class lost its economic footing at the same time its knowledge economy began to wobble.

What Killed the Engine

The decline was mechanical. Between 1967 and 1972, defense contracts awarded to New England declined approximately 40% in real terms. Massachusetts lost 112,000 manufacturing jobs, 15% of them from high-tech firms.[9] The 1973 recession and 1974 oil crisis compounded the damage. The pipeline that had been feeding the ecosystem for three decades was constricted at the source.

The minicomputer boom of the late 1970s and 1980s temporarily replaced defense spending as the growth engine, producing what politicians called the "Massachusetts Miracle."[10] But the miracle was built on a single industry cycle, not on durable infrastructure. When the PC revolution arrived and the minicomputer market collapsed, Route 128 had no fallback. DEC was acquired by Compaq in 1998, Wang filed for bankruptcy, and Data General was absorbed by EMC.

The deeper structural problem was cultural, and it ran deeper than corporate structure. Route 128 firms were vertically integrated, secretive (a legacy of defense contracting culture), geographically dispersed, and loyal to corporate hierarchy.[11] Silicon Valley, by contrast, was dense, porous, and organized around networks rather than firms. Workers in the Valley job-hopped freely, shared information across company lines, and identified with the ecosystem rather than with any single employer.[12] Stanford actively promoted startups and oriented its culture around commercialization and company-building; MIT, with deeper government ties and a stronger research tradition, was more cautious and academic. This institutional difference shaped everything downstream. Boston produced breakthrough research, patents, and deep technical knowledge. Silicon Valley produced companies. The difference was risk tolerance, which was shaped by the capital architecture that surrounded each ecosystem. The venture

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[9]See note 6.

[10]"Route 128 Timeline," Route 128 History, accessed March 2026, https://route128history.org.

[11]Brian Manning, "How Silicon Valley Became Silicon Valley (And Why Boston Came In Second)," briancmanning.com, April 7, 2019, https://www.briancmanning.com/blog/2019/4/7/how-silicon-valley-became-silicon-valley.

[12]AnnaLee Saxenian, *Regional Advantage: Culture and Competition in Silicon Valley and Route 128* (Cambridge, MA: Harvard University Press, 1994).

capitalists who had learned their trade at ARD in Boston were already building the financial infrastructure of the West Coast.

The result was a slow-motion transfer of gravity from east to west because Silicon Valley had a capital and cultural architecture that converted ideas into companies faster, retained the value locally, and recycled success into the next generation of ventures.

Part II: Where Boston Stands Now

The Numbers

The data is clear. Boston's innovation economy is in decline relative to its competitors, and the decline is accelerating. In 2025, Massachusetts startups raised $16.7 billion in venture capital, a 12% increase over 2024. That sounds good until you compare it to California (up 82%) and Texas (up 72%).[13] New York surpassed Massachusetts as the second-most-successful state in attracting venture capital. In Q4 2025, New York City attracted nearly three times as much funding as the Boston area.

In 2024, Massachusetts lost over 8,200 tech jobs, the second-largest decline among all U.S. states.[14] CNBC ranked Massachusetts third in technology and innovation economy in 2024, down from first place in 2023.[15]

The state lost approximately 33,000 people to other states in the 12 months ending July 2025, up from 19,000 the prior year.[16] Younger venture capitalists are leaving because of a lack of deal volume. The most revealing observation comes from Antonio Rodriguez, managing partner at Matrix, who noted that the AI boom is spinning in Silicon Valley and, unlike prior waves, none of the diffusion is coming back to Boston because everyone has already left or is leaving.[17]

Massachusetts retained less than half of its AI-trained graduates, well below the levels of most peer states.[18] Founders leaving cite the same reasons consistently: better information flow, more networking, and access to risk-taking investors elsewhere.[19] Not one energy or industrial hardware company founded in Boston since 2021 has raised even $50 million.[20]

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[13]Kara Miller, "'I'm Starting to Worry About Massachusetts': Is Boston's Tech and Innovation Scene Withering?," *Boston Globe*, January 27, 2026, https://www.bostonglobe.com/2026/01/27/business/boston-tech-innovation-biotech-worry/.

[14]Mirella Franzese, "Regional Review: Can Boston's Tech Sector Capitalize on Major Changes?," Capital Analytics Associates, December 22, 2025, https://capitalanalyticsassociates.com/regional-review-can-bostons-tech-sector-capitalize-on-major-changes/.

[15]"MA Leads the Nation in Venture Capital, But Follows National Declining Trend," Mass Opportunity Alliance, January 2025, https://massopportunity.org/content/blog/ma-leads-the-nation-in-venture-capital-but-follows-national-declining-trend/.

[16]Kara Miller, "'Everyone's Leaving': Why More of the Wealthy Are Moving from Massachusetts to Other States," *Boston Globe*, March 16, 2026, https://www.bostonglobe.com/2026/03/16/business/wealthy-leaving-massachusetts-other-states/.

[17]Antonio Rodriguez, managing partner at Matrix Partners, quoted in Miller, "'Everyone's Leaving.'" See note 16.

[18]Massachusetts High Technology Council, "MassVision2050: Strategic Impacts of AI on Massachusetts Workforce," July 2025, https://www.mhtc.org/wp-content/uploads/2025/07/MassVision2050-Strategic-Impacts-of-AI-on-Massachusetts-Workforce_July-2025.pdf.

[19]Scott Kirsner, "AI Talent Is Leaving Massachusetts," *Boston Globe*, April 24, 2024, https://www.bostonglobe.com/2024/04/24/business/ai-talent-leaving-massachusetts/.

[20]Michael Campos, "What's Wrong in the Town," Campos Capital (Substack), January 2026, https://campos.substack.com/p/whats-wrong-in-the-town.

Life sciences, Boston's supposed crown jewel, is equally distressed. VC funding for Massachusetts biotech fell 17% in the first half of 2025 to the lowest level since 2017.[21] Thirteen biotech companies laid off 1,400 employees in Massachusetts in 2024 alone. Over 30 tech companies eliminated 6,500 local jobs. A third of Greater Boston's lab space now sits empty, a record vacancy rate driven by speculative construction that collided with a demand cliff.[22]

The Policy Failures

Massachusetts created its own headwinds. For decades, the state refused to conform to federal Qualified Small Business Stock (QSBS) rules, which allow founders and early investors to exclude capital gains from the sale of startup equity. Massachusetts finally conformed in 2022. That same year, voters approved the "Millionaire's Tax," a 4% surtax on income exceeding $1 million, including one-time liquidity events like selling a company.[23]

The combined effect: a founder who sells a company for $10 million in Massachusetts owes approximately $860,000 in state taxes. The same founder in Florida, Texas, or New Hampshire owes $0. And even with the 2022 QSBS conformity, Massachusetts only partially conforms, the exclusion is generally capped at 50% at the state level, far less generous than the federal 100% exclusion.[24] The message to founders was unmistakable: build here, but sell somewhere else.

The estate tax compounds the problem. Massachusetts's estate tax kicks in at $2 million, one of the lowest thresholds in the country. New York's threshold is $7.35 million. California, New Hampshire, and Florida have no estate tax. In 2024, more than 20,000 Massachusetts residents relocated to New Hampshire alone; Florida absorbed nearly 22,000.[25]

These are not abstract policy debates. They are direct attacks on the capital formation pipeline. Every wealthy individual who leaves takes their angel investment capacity, their LP commitments to local venture funds, their board service, and their mentorship with them.

The Energy Crisis

Massachusetts has some of the highest electricity rates in the United States. As of March 2026, residents pay approximately 34 cents per kilowatt-hour, roughly 68% above the national

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[21]Michael Gibney, "Massachusetts Biotech Hub Is Limping Amid Layoffs and Low Investment," *PharmaVoice*, October 2025, https://www.pharmavoice.com/news/massachusetts-biotech-limping-layoffs-investment-boston-massbio/803581/.

[22]Catherine Carlock, "Boston's Lab Building Boom Has Gone Bust," *Boston Globe*, August 11, 2025, https://www.bostonglobe.com/2025/08/11/business/empty-lab-space-boston/.

[23]Will Manidis, "The Decline and Fall of the American Technology Industry," Substack, January 6, 2026, https://minutes.substack.com/p/the-decline-and-fall-of-the-american.

[24]"QSBS and the Big Beautiful Bill: Tax Code Upgrades for Startups," Davis Wright Tremaine LLP, July 2025,https://www.dwt.com/blogs/startup-law-blog/2025/07/qsbs-big-beautiful-bill-tax-code-upgrades.

[25]See note 16.

average.[2627] This is a structural tax on every household and every business in the Commonwealth.

Price growth has been relentless: Massachusetts electricity rates were 70% higher in November 2025 than in November 2015, nearly double the national rate of increase. New England is the only major gas-consuming region in the country without adequate pipeline capacity. Multiple projects that would have expanded supply into the region were blocked or cancelled, leaving ratepayers exposed to sharp winter price spikes as utilities compete for liquefied natural gas at global spot prices. The offshore wind projects that were supposed to diversify the supply mix have been suspended by the federal government.[28] No new baseload generation capacity is being built, the grid is aging, and delivery charges have doubled in a decade.

The human cost is direct: roughly 1.3 million Massachusetts residential ratepayers have reported choosing between paying their energy bills and paying for food or healthcare. More than 900,000 households have missed at least one energy payment.[29]

For the innovation economy, energy costs function as an invisible tax that compounds every other disadvantage. A data center that costs 68% more to power in Massachusetts than in Ohio is not going to locate in Massachusetts. An AI startup burning through compute is not going to pay higher electricity rates when Virginia, Texas, or Ohio offer rates half as low. The state is losing founders and investors to better tax policy, and it is losing the physical infrastructure of the next technology wave to states with cheaper, more abundant power.

And no one is building the supply to fix it. The state has approximately 50 municipal light plants serving roughly 14% of its electricity customers, many of them small, undercapitalized, and falling behind on clean energy mandates. The investor-owned utilities are focused on defending their rate bases, not on innovation. Massachusetts has world-class energy researchers at MIT and UMass. It has no plan to turn that research into deployed generation at scale.

The Congressional Vacuum

Massachusetts's entire Congressional delegation consists of Democrats in a period of unified Republican federal government. The state has lost approximately $400 million in direct federal

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[26]"Why Does Massachusetts Have Some of the Highest Electricity Prices in the Country?," Third Way, 2026, https://www.thirdway.org/blog/why-does-massachusetts-have-some-of-the-highest-electricity-prices-in-the-country.

[27]"Compare Massachusetts Electricity Rates (2026)," EnergySage, March 2026, https://www.energysage.com/local-data/electricity-cost/ma/.

[28]"Here Are Mass.' Top Energy Priorities in 2026, According to the State's Top Energy Official," WBUR, December 31, 2025, https://www.wbur.org/news/2025/12/31/here-are-mass-top-energy-priorities-in-2026-according-to-the-states-top-energy-official.

[29]See note 26.

support since the start of the current administration.[30] The One Big Beautiful Bill Act, signed in July 2025, includes additional direct funding impacts through FY2028.[31]

But the problem is deeper than partisan math. The Massachusetts delegation is not bringing home force-multiplier capital. The federal dollars flowing into the state are overwhelmingly transfer payments: Medicaid reimbursements, education grants, housing assistance. These are important, but they are not economic development capital. They do not create industries, attract corporate investment, or generate compounding returns.

Compare this to Ohio's delegation, which helped secure $7.86 billion in CHIPS Act funding for Intel, or to Virginia's, which anchored Amazon's HQ2. Massachusetts has no comparable federal capital pipeline for its priority sectors. Its delegation is spending political capital fighting clawbacks and defending existing programs, not competing for the transformative investments that reshape regional economies. The consequences are apparent: when Anduril Industries, the defense technology company, needed to expand its maritime manufacturing operations in New England, it chose Quonset Point, Rhode Island over Massachusetts. Among the factors was alignment with Senator Jack Reed, then-chairman of the Senate Armed Services Committee. Political alignment with federal capital allocation determines where factories get built.

The antagonistic posture between the state and the current federal administration makes this worse. Whether the antagonism is justified is a separate question. The economic consequence is clear: Massachusetts is not at the table where capital allocation decisions are being made.

The Coordination Gap

Massachusetts has dozens of organizations working on pieces of the innovation economy: MassChallenge for broad-sector acceleration, Greentown Labs for cleantech, FinTech Sandbox for financial technology, North Shore InnoVentures for biotech, LearnLaunch for edtech, the university incubators at MIT, Harvard, and Northeastern, the industry associations like MassBiotech Council, MassTLC, and the Clean Energy Center. The state has MassTech as a coordinating body and MassEcon as a development organization.

None of them are talking to each other in any structured way. There is no shared dealflow pipeline. There is no coordinated approach to federal funding opportunities. There is no common data infrastructure tracking which companies are being formed, which are being funded, and which are leaving. Each organization optimizes for its own sector, its own metrics, and its own survival. The result is a fragmented archipelago of good intentions where the sum is less than the parts.

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[30] Julian E.J. Sorapuru and Tal Kopan, "Five Ways Trump's Policies Impacted Massachusetts in 2025," *Boston Globe*, December 30, 2025, https://www.bostonglobe.com/2025/12/30/nation/trump-massachusetts-policy-impacts/.

[31] "Impact of Trump Administration and Congressional Cuts on Massachusetts," Mass.gov, accessed March 2026, https://www.mass.gov/info-details/impact-of-trump-administration-and-congressional-cuts-on-massachusetts.

If these organizations were coordinated, even loosely, the Commonwealth would have a real-time map of its innovation pipeline, a shared voice in federal funding competitions, a cross-sector referral network for founders, and the collective credibility to attract the kind of institutional capital that individual organizations cannot command alone. Ohio did not build the Silicon Heartland with a dozen disconnected programs. It built it with alignment. That is what coordination means.

Part III: What Ohio Understood

The Scale of Commitment

Ohio's transformation into the "Silicon Heartland" did not happen because someone launched an accelerator in Columbus. It happened because coordinated capital at scale, tens of billions of dollars, was deployed with political alignment across federal, state, and private sectors.

The numbers are staggering. Intel is investing more than $28 billion to build two semiconductor fabrication plants in Licking County, the largest single private-sector investment in Ohio history.[32] Amazon has invested more than $20 billion in AWS data center infrastructure in Ohio since 2015, adding $6.2 billion to state GDP, with planned investment forecast to surpass $23 billion by 2030.[33] Google has invested more than $7.2 billion in Ohio since 2019.[34] Meta is building Prometheus in New Albany, the world's first gigawatt-capable data center, coming online in 2026.[35]

Columbus is now the sixth-largest data center market globally.[36] Ohio has more than 100 operational data centers with another 77 planned by 2030.[37] This represents a complete restructuring of a regional economy through coordinated capital deployment.

The Infrastructure of Alignment

What makes Ohio compelling is not only the scale of investment, but how the investments were coordinated. The federal government provided the CHIPS Act framework: $7.86 billion in direct funding to Intel, plus a 25% investment tax credit.[38] The state provided aggressive tax incentives, $2.5 billion in tax breaks from 2017 to 2024.[39] Local governments provided property tax abatements, expedited permitting, and infrastructure upgrades. American Electric Power

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[32]"Intel Invests in Ohio," Intel Corporation, accessed March 2026, https://newsroom.intel.com/press-kit/intel-invests-ohio.

[33]"AWS Continues to Invest in Ohio," Amazon Web Services, accessed March 2026, https://www.aboutamazon.com/news/aws/aws-continues-to-invest-in-ohio.

[34]"Google in Ohio," Google Data Centers, accessed March 2026, https://www.google.com/about/datacenters/locations/ohio/.

[35]"$6 Billion U.S. Manufacturing Investment to Aid New Albany Data Center," NBC4 WCMH-TV, September 2025, https://www.nbc4i.com/news/local-news/new-albany/6-billion-u-s-manufacturing-investment-to-aid-new-albany-data-center/.

[36]"Ohio Solidifies Leading Hub in Global AI Race," Ohio Tech News, December 2025, https://www.ohiotechnews.com/ohio-solidifies-leading-hub-global-ai-race-report/.

[37]"Columbus Will Become Second-Largest Data Center Hub in the Great Lakes Region," WOSU Public Media, January 19, 2026, https://www.wosu.org/2026-01-19/columbus-will-become-second-largest-data-center-hub-in-the-great-lakes-region-report-says.

[38]"Intel Ohio One: Betting on America's New Silicon Heartland," Securities.io, March 2026, https://www.securities.io/intel-ohio-one-silicon-heartland/.

[39]"Ohio's Data Center Boom Faces Political Resistance," Signal Ohio, December 19, 2025, https://signalohio.org/ohio-data-center-boom-faces-political-resistence/.

Company (“AEP”) is building new substations and transmission lines to handle the load. Ohio's entire education system mobilized to create a workforce pipeline.

Intel pledged $100 million toward partnerships with Ohio educational institutions.[40] Amazon built community investment programs alongside its data centers. Google is running workforce development programs for underrepresented populations. The real estate infrastructure was already in place: Leslie Wexner's New Albany Company developed the International Business Park over decades, creating the physical footprint that now hosts Amazon, Google, Intel, and Meta.[41]

The Hard Truth About What Made It Work

Ohio's transformation was built on four things that Massachusetts currently lacks:

Political will to deploy capital at scale - Ohio's governor vetoed the legislature's attempt to eliminate data center tax breaks, explicitly stating that the state needs the exemption to compete for technology jobs and capital investment. Massachusetts passed a surtax on its most productive residents.

A business climate that attracts rather than repels capital - Ohio has no estate tax, lower cost of living, abundant land, and a regulatory posture that says "yes" to large-scale development. Massachusetts has one of the lowest estate tax thresholds in the country, the highest electricity costs, and a political culture that treats business as a revenue source rather than as a partner.

Physical infrastructure prepared for scale - The New Albany business park, power grid upgrades, workforce training programs, and educational partnerships were all in place or rapidly mobilized when major investors arrived. A third of Greater Boston's lab space sits empty. Cambridge office vacancy hit an all-time high of 26% in 2025, more than double the historical average. The state's approach to infrastructure has been reactive, not strategic.

Federal alignment - The CHIPS Act, the Inflation Reduction Act, and federal defense priorities all flow through Ohio's infrastructure. Massachusetts has no comparable federal capital pipeline, and its delegation is politically positioned to obstruct rather than attract the current administration's investment priorities.

None of this required an accelerator brand from Silicon Valley. It required capital, political alignment, physical infrastructure, and a decades-long commitment to creating the conditions for investment.

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[40]"Intel Ohio: The Silicon Heartland," Intel Corporation, 2024, https://download.intel.com/newsroom/2024/corporate/Intel-Ohio-The-Silicon-Heartland.pdf.

[41]Logan Chapman, "Hollow Promises in Ohio's Silicon Heartland," *American Prospect*, March 5, 2026, https://prospect.org/2026/03/05/ohio-tech-ai-data-centers-meta-amazon-google-energy/.

Part IV: What Boston Would Actually Need

If Boston is serious about restoring its position as a top-tier innovation economy, and genuinely competitive with the Bay Area, New York, and now Ohio, the following is what it would require. None of this is easy and most of it is politically difficult, but all of it is necessary.

1. A Capital Source to Replace Defense Spending

The defense-industrial pipeline that built Route 128 is not coming back in its original form. But the principle holds: you need a massive, sustained source of capital flowing through local institutions into local companies. The modern equivalents are:

Federal AI and biotech spending - The $4 billion economic development bond bill signed in late 2024 is a start, but it is a fraction of what Ohio is deploying. Massachusetts needs to position itself as the primary recipient of federal AI research funding through DARPA, NSF, NIH, and DOE, leveraging its research university density as the selling point. This requires active federal lobbying.

Corporate venturing at scale - Boston has almost no corporate venture capital compared to the West Coast. Catalyzing corporate innovation arms at Fidelity, MassMutual, Liberty Mutual, Raytheon, and the region's major health systems could create a self-sustaining capital pipeline. This requires institutional leadership, not government programs.

University endowment capital - Harvard's endowment alone is $56.9 billion, with 14%, or roughly $8 billion, already allocated to venture capital. MIT, Boston University, and the state's other research universities add billions more. The problem is that virtually none of it is directed toward Massachusetts-based funds or Massachusetts-founded companies. The capital is extracted from a tax-exempt institution in Cambridge and deployed to generate returns in Menlo Park. The state could require universities that enjoy tax-exempt status to direct a percentage of their venture allocation into Massachusetts-focused funds as a condition of that exemption. At Harvard's scale, 10% of its current VC allocation would mean $800 million flowing into the local ecosystem. That is asking institutions that benefit enormously from public goods to reinvest in the economy that sustains them.

State capital deployed like investment, not like grants - Eric Paley, the Secretary of Economic Development, thinks like a VC: small dollars in, meaningful milestones that attract capital elsewhere. The $4 billion bond bill should be deployed with this mentality, catalytic investments with 10:1 or 15:1 leverage ratios, not distributed as conventional grants.

2. Tax Policy That Retains Capital Formers

This is the single most actionable lever and the most politically toxic. The hard truth:

The millionaire's surtax is driving capital formers out of Massachusetts. This is apparent from the migration data, the VC fundraising data, and the testimony of investors who have left. Massachusetts's partial QSBS conformity needs to match federal 100% exclusion. The $2 million estate tax threshold needs to be raised substantially. A founder-friendly tax posture would cost the state relatively little in revenue compared to the downstream economic activity it would retain. The state collected approximately $2.5 billion from the millionaire's surtax. The question is whether that $2.5 billion in annual revenue is worth the loss of the capital formation ecosystem that produces it.

3. Energy Infrastructure for the Next Economy

You cannot build a 21st-century innovation economy on a 20th-century energy grid charging the highest rates in the United States. Ohio attracted Big Tech because it had land, power, and political will. Massachusetts has none of these in abundance. But it does have something Ohio lacks: density of research talent. The infrastructure play for Massachusetts is different but equally important.

Bring rates down - The state needs new generation capacity, not in 2035 but now. The offshore wind pipeline has been disrupted by federal policy. Solar deployment needs to accelerate. The New England Clean Energy Connect transmission line from Canadian hydropower is a start, but the state also needs to unlock the generation capacity hiding in plain sight: the municipal light plants, many underperforming, that could be modernized through public-private partnerships to add solar, battery storage, and networked geothermal.[42]

Build the district energy model - Eversource's networked geothermal pilot in Framingham, which went live in June 2024, demonstrates that utility-operated thermal networks are a viable asset class.[43] Applied at scale across municipal systems, this model creates new revenue streams, reduces total energy costs for ratepayers, and decarbonizes heating and cooling simultaneously. This is proven infrastructure waiting for capital and political will.

AI compute access - The state's AI Compute Resources program (Nvidia GPU deployment through MassTech) is a beginning, but it needs to be 10x larger and available to startups, not just institutional researchers.

A physical gravity center that creates density - A building, a neighborhood, a few blocks where founders, investors, and corporate partners across sectors are co-located. A third of Greater Boston's lab space is empty. Cambridge office vacancy is at an all-time high. The physical space exists, but it needs to be repurposed and made accessible to early-stage companies instead of sitting vacant because it was built for biotech at peak pricing. Density is what builds the coffee

[42]"Massachusetts Municipally-Owned Electric Companies," Mass.gov, accessed March 2026, https://www.mass.gov/info-details/massachusetts-municipally-owned-electric-companies.

[43]"Eversource Networked Geothermal Pilot," Massachusetts Department of Public Utilities, DPU Docket D.P.U. 19-120.

shop culture that every innovation economy admires but few understand how to create. It requires a real estate strategy, not a program strategy.

4. Political Alignment Across Institutions

Ohio's success required the governor, the legislature, local governments, utilities, educational institutions, and the private sector to be pointed in the same direction. Massachusetts's current political landscape is fragmented at best and hostile to business at worst. What alignment would look like:

The governor's office committed to tech competitiveness as a first-order priority, and as the defining economic challenge of the next decade. Paley's appointment suggests the Healey administration understands this; the question is whether the political will exists to make difficult trade-offs.

MassTech functioning as an aggressive capital deployment vehicle, not a program administrator. The $4 billion bond bill deployed with venture-style discipline would change the game.

University engagement beyond lip service. MIT and Harvard are the most powerful economic assets in the Commonwealth. If even a fraction of their research output was channeled into a structured commercialization pipeline, rather than being poached by Y Combinator and the Bay Area, the impact would be transformative.

Municipal governments as partners. Replicating a pro-growth, pro-innovation posture across Cambridge, Boston, Somerville, Quincy, and the Route 128 suburbs would create a coordinated jurisdictional environment rather than a patchwork of competing fiefdoms.

5. A Dealflow Infrastructure That Keeps Value In-State

The missing link in Massachusetts is not ideas (the universities produce world-class research) or capital (Boston is still a top-5 VC market). The missing link is a structured pipeline that converts research into investment-ready dealflow and anchors it locally.

Stage 1: Research-to-venture translation. Programs embedded in universities that identify commercially viable research and move it toward company formation. Think of them more like operational programs that pair researchers with business talent over tech transfer offices filing patents.

Stage 2: Early-stage company building. Structured programs with micro-grants, mentorship, and workspace that take nascent companies from idea to minimum viable product. This is where nondilutive capital from the state is most impactful.

Stage 3: Accelerator-to-investment. Cohort-based programming that produces demo-ready companies for local and national investors. This is where most accelerators operate, but it is only one stage in a four-stage pipeline.

Stage 4: Growth capital access. Structured relationships with institutional VCs, corporate venture arms, and growth-stage investors that keep companies in Massachusetts through Series A and beyond. This is where the ecosystem currently hemorrhages: companies raise seed in Boston and leave for the Valley to raise their A.

Organizations like MassChallenge, Greentown Labs, FinTech Sandbox, and the university incubators each operate at one or two stages of this pipeline. The state needs them coordinated across sectors, connected to capital, measured by companies retained in-state, and operating as a unified infrastructure rather than disconnected programs. It needs coordinated dealflow across ten sectors, flowing into a shared ecosystem.

Part V: The Honest Assessment

What Massachusetts Would Have to Change

Restoring Boston's innovation economy to genuine competitiveness requires changes that the current political establishment may not be willing to make:

Accept that tax policy has consequences - The millionaire's tax, the estate tax threshold, and partial QSBS conformity are not free money. They are a bill that comes due in the form of capital flight, talent exodus, and declining deal volume. The state can choose equity-oriented tax policy or a world-class innovation economy. Right now, it is trying to have both, and the data says it cannot.

Stop treating business as a revenue source to be optimized - Ohio's governor vetoed his own legislature to protect tech investment incentives. Massachusetts's political culture treats any tax concession as a giveaway to the wealthy. This framing will continue to erode competitiveness until it changes.

Solve the energy problem - The highest electricity costs in the continental United States are incompatible with attracting data centers, AI companies, or advanced manufacturing. New generation capacity, grid modernization, and rate reform are economic development imperatives, not just environmental ones.

Abandon the idea that a program can substitute for capital infrastructure - Launching an innovation hub, hosting a conference, or importing a brand is not a strategy. These are activities. A strategy requires billions of dollars of aligned capital, decades of sustained commitment, and political leadership willing to take risks.

Demand institutional leadership from universities - MIT and Harvard produce the best AI researchers in the world and the majority of them leave. This is an institutional failure, and it requires institutional solutions: better startup support, venture funding tied to local residency, and faculty incentive structures that reward commercialization.

Send members of Congress who bring home capital, not just press releases - The federal dollars that built Route 128 and are building the Silicon Heartland came through an aligned political apparatus. Massachusetts's delegation is currently positioned to defend against cuts, not to compete for transformative investment. Whether this requires bipartisan outreach, strategic alliances, or simply a different theory of power, the current approach is producing declining returns.

What's Actually Possible

The truth is that Massachusetts is unlikely to replicate Ohio's transformation in the near term. The political will does not exist. The tax changes required are not on any legislative agenda, and

the scale of capital deployment needed is orders of magnitude beyond what is currently proposed.

What is possible is a targeted, disciplined approach that plays to Massachusetts's actual strengths:

Leverage the $4 billion bond bill strategically - Deploy it with venture-style discipline through MassTech. Target catalytic investments with 10:1+ leverage ratios. Measure outcomes in private capital attracted, not programs launched.

Build the dealflow infrastructure sector by sector - AI, biotech, climatetech, defense tech, fintech. Each sector needs a structured pipeline from research to venture, operated by people who understand the sector, connected to local capital, and measured by companies retained in-state.

Pick fights with Y Combinator, not with Ohio - The immediate competitive threat is not Ohio stealing biotech companies. It is Y Combinator and Techstars pulling the best MIT and Harvard founders to San Francisco at age 22. Building compelling local alternatives, with capital, community, and career opportunity, is the most impactful near-term intervention.

Fix the energy infrastructure from the ground up - The MLP concession model, public-private partnerships that modernize underperforming municipal utilities with solar, storage, and geothermal, is one concrete path. It neither requires legislative action nor federal approval. It requires capital, operational competence, and town-by-town political engagement. If successful, it creates a replicable model for energy infrastructure modernization that also demonstrates the broader thesis: aligned capital, locally deployed, produces compounding returns.

Look at what smaller cities are already doing - Chattanooga, Tennessee, offers an instructive parallel. Its city-owned utility, EPB, invested $22 million in a quantum computer from IonQ and partnered with Vanderbilt University and Oak Ridge National Laboratory to create a quantum innovation institute. Governor Bill Lee committed $20 million in state funding for a statewide quantum initiative. A site selection consultant told the Chattanooga Chamber that the city's quantum capabilities make it "absolutely unique right now" and urged officials to move fast before larger cities catch up. The projected local economic impact: $1.1 billion and 2,000 jobs by 2035. This is what happens when a municipal utility, a university partner, and aligned state capital point in the same direction. Massachusetts has dozens of municipalities with similar ingredients. The question is whether the capital and coordination arrive in time.[44]

Create a coalition of the willing. Not every political leader, university president, or corporate CEO will engage. Find the ones who will. Eric Paley's VC mindset, municipal leaders willing to

[44]Daniel Dassow, "Chattanooga Quantum Sector to Lead State as 'Q-Day' Approaches," *Chattanooga Times Free Press*, March 13, 2026; Daniel Dassow, "Chattanooga Should Move Fast to Capitalize on Quantum, Consultant Says," *Chattanooga Times Free Press*, February 20, 2026.

act, university partners willing to commit institutional resources, companies like Whoop that are actively investing in local ecosystem building. A coalition of aligned actors can accomplish more than waiting for systemic change.

Make the case publicly. The data in this document is public. The talent exodus is documented. The VC decline is quantified. The energy costs are published. Someone needs to put it in front of the people, with urgency, who can act and say: this is what is happening, this is why it is happening, and this is what we have to do about it.

Conclusion: Capital Is the Only Magnet

In 1940, the federal government pointed billions of dollars of defense spending at MIT. That capital created the Rad Lab, which created Lincoln Laboratory, which created Route 128, which created the Massachusetts Miracle. The capital came first, and everything else followed.

In 1946, Georges Doriot and a coalition of Boston's institutional leaders created the first venture capital firm, built it in Boston, and used it to fund the companies that emerged from the defense research pipeline. That capital infrastructure created Digital Equipment Corporation, catalyzed the minicomputer industry, and established Route 128 as the global center of computing. The capital came first, and everything else followed.

In 2022, the federal government pointed billions of dollars of CHIPS Act funding at Ohio. That capital created Intel's fabrication plants, which attracted Amazon and Google and Meta, which created the Silicon Heartland. The capital came first, and everything else followed.

Massachusetts does not currently have a comparable capital pipeline. It has world-class research institutions, a deep (if shrinking) talent pool, an established (if declining) venture capital market, and a $4 billion bond bill that has not yet been deployed. It also has a tax policy that is driving capital out, the highest electricity costs in the United States, a political culture that is ambivalent about business, a Congressional delegation that is not positioned to attract transformative federal investment, and a tendency to reach for programmatic solutions to structural problems.

The answers are not a program, a single state grant, or an announcement.

The answer is coordinated capital at scale, sustained over time, with political alignment that keeps the value chain in Massachusetts. That is what built Boston the first time. That is what is building Ohio right now. It is the only thing that will bring Boston back.

This document is a working framework for strategic discussion. It is intended to inform conversations with potential partners, investors, policymakers, and ecosystem leaders who share the goal of restoring Massachusetts's innovation competitiveness. The analysis is the author's own; the data is sourced and cited.