Case Study

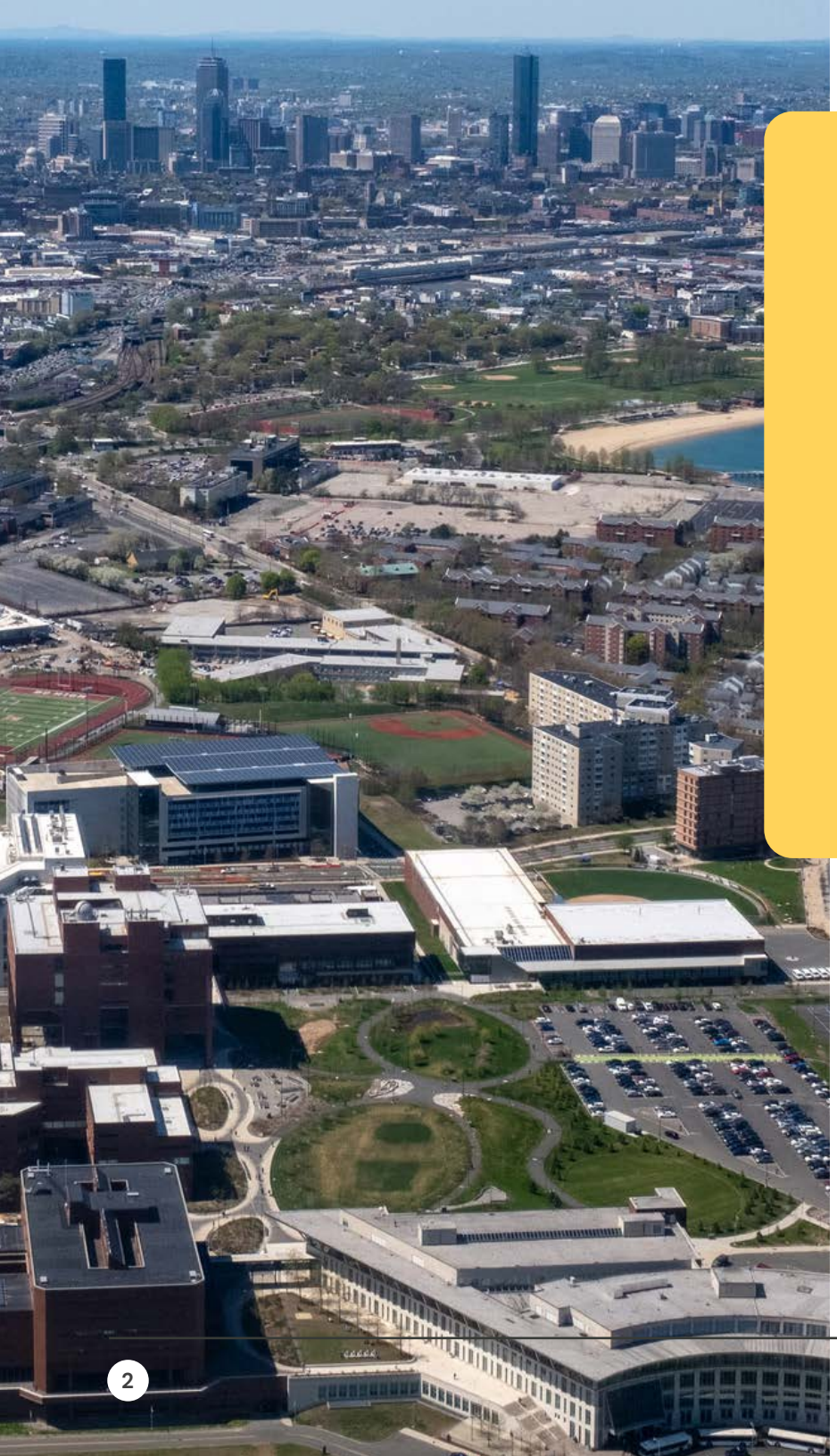
HelioCampus and the University of Massachusetts Boston

# From "Dueling Data" to a Single Source of Truth

## How UMass Boston Built the Data Foundation for Holistic Student Success



HelioCAMPUS



The University of Massachusetts Boston is the only public research university in the City of Boston. Serving a majority-minority, largely commuter student population, UMass Boston's mission centers on access, opportunity, and student success. When Associate Provost Andrew Perumal took ownership of the institution's data and analytics strategy, one challenge was unmistakable: the university's number-one strategic priority—holistic student success—was being held back by its own data infrastructure. UMass Boston is not simply trying to become more data-informed; it is trying to become more effective at delivering on a public mission: advancing access, equity, student success, research excellence, and social mobility in one of the nation's most complex urban higher education environments.

Like many public universities, UMass Boston was operating in a constrained fiscal environment that required more disciplined, transparent, and strategic resource decisions. The university needed better tools to align academic investments with enrollment demand, student progress, program quality, and long-term financial sustainability. This work unfolded as UMass Boston, under the academic leadership of Provost Joseph Berger, was strengthening its position as a national model for what a public urban research university can and should be: an R1 institution with the strongest access mission in the country. The university's aspiration was not simply to grow research or improve operations, but to demonstrate that research excellence and inclusive student success are mutually reinforcing. Addressing those challenges required clear, shared data—and that's exactly what the institution lacked.

“

**We haven’t been sufficiently data-informed to make meaningful progress year over year,” says Associate Provost Perumal. “We needed to address our data platform as the number one step.”**

Across Academic Affairs, leaders were reconciling competing numbers from disparate spreadsheets and operating without a shared view of the institution. Data lived in silos. Reports were manual. Without a reliable single source of truth, it was nearly impossible to move from discussing trends to acting on them. Building a single source of truth is not a purely technical modernization project. It is a foundational step in becoming the kind of high-access public research university that can identify where students are gaining momentum, where they are losing ground, and where institutional policies, advising practices, course availability, and resource decisions need to change.

In 2022, UMass Boston partnered with HelioCampus—already a trusted partner of the UMass System—to build that foundation. The partnership has since expanded to Academic Cost Analytics, several fee-for-service builds, and an upcoming Assessment Management implementation. The results have reached across enrollment management, retention, academic resourcing, and the institution’s long-term vision for student credentials.



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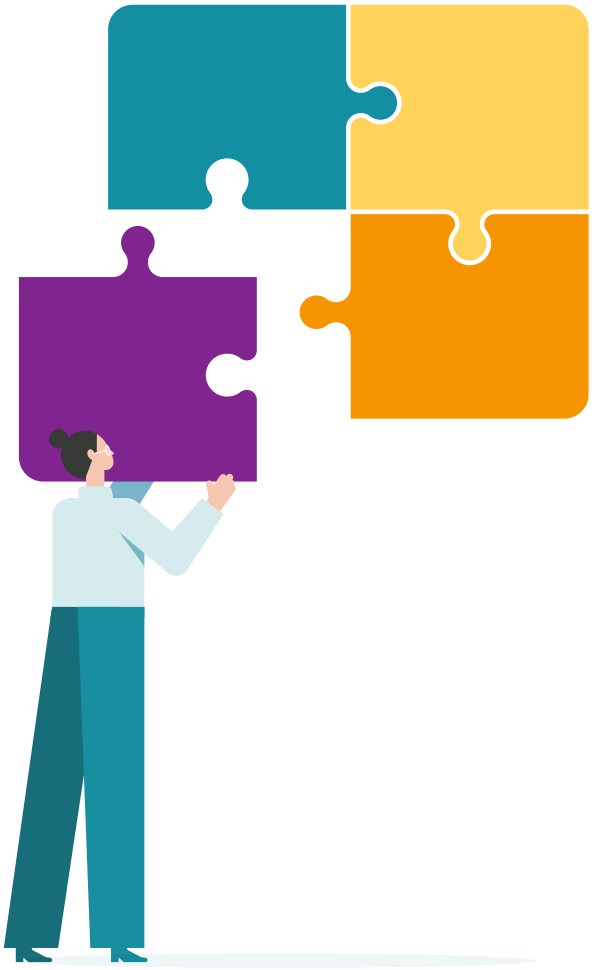
# Building a Single Source of Truth

Before HelioCampus, data at UMass Boston was fragmented. Decision-makers reconciled competing numbers from disparate Excel files. Institutional Research (IR) fielded requests that were slow to fulfill, and different offices sometimes disagreed about basic metrics—the phenomenon Associate Provost Perumal describes plainly as "dueling data." It was clear that the problem was not only technical. When different units relied on different numbers, institutional conversations could stall before they reached strategy. Leaders spent too much time adjudicating data and not enough time asking what the data meant for students, programs, budgets, and outcomes.

HelioCampus carried the implementation: extract, transform, and load (ETL) processes, data modeling, transformations, and dashboard build. IR led data validation with support from subject-matter experts across campus, while IT's role was scoped to source-system access and integration enablement. Integrations spanned UMass Boston's Student Information System (SIS), Finance/HR/Enterprise Resource Planning (ERP) system, and Customer Relationship Management (CRM) system. The foundational implementation took four months—a notably rapid accomplishment for an enterprise data platform of this scope.





> **It was no longer dueling data. It was much more along the lines of: here's a single source of truth that has been validated by the appropriate officers across campus. That gave us the ability to say—how do we use the data to inform policy?"**
>
> Andrew Perumal, Associate Provost, University of Massachusetts Boston

The first meaningful change was retiring a long tail of manual reports and shadow spreadsheets. Once leaders stopped reconciling competing numbers and began working from a governed, shared source of truth, the conversation inside Academic Affairs shifted. The question was no longer "whose data is right?"—it became "what are the underlying drivers, and what should we do about it?"

Broad adoption followed. UMass Boston invested in training sessions and actively championed the platform across the institution—ensuring data became how the institution worked, not something a few analysts touched in isolation.

2

# Enrollment and Admissions Intelligence

With a reliable data foundation in place, UMass Boston turned its attention to enrollment—an area with immediate operational stakes and long-term strategic implications. HelioCampus built detailed admissions tracking dashboards that let leaders analyze applicant and enrolled student data by program type, transfer channel, freshman cohort characteristics, and point-in-time comparisons against prior years.

Year-over-year enrollment tracking revealed a longstanding pattern: students at UMass Boston were committing late, with registration clustered in the final weeks before—and even after—the start of each semester. The downstream consequences were significant. Course planning was reactive, capacity decisions were made under pressure, and the institution's ability to guarantee appropriate course sequencing for students was limited.





Using the enrollment dashboards, UMass Boston worked with advising officers and academic colleges to pull registration timelines meaningfully forward. The results are visible in the data: the Fall 2019 first-time-in-college undergraduate class finished at 1,798 students, with enrollment climbing right through the start of term.

**By Fall 2023—a year into the HelioCampus partnership—the class reached 2,218 students and was largely locked in weeks before the term began. More students, earlier commitment, and far better visibility for planning.**

That earlier certainty now has compounding value. As UMass Boston transitions to a new all-funds budget model—one in which deans bear more direct responsibility for instructional staffing decisions—knowing actual enrollment demand before the term starts is what allows them to make hiring and adjunct decisions on time, rather than scrambling to add sections in week one.

3

# Retention at the Right Level of Granularity

UMass Boston had long tracked retention at the campus level—and occasionally at the college level. That's useful for benchmarking, but not useful for action. This level of granularity matters significantly in an equity-driven, access-oriented institution because averages can obscure the lived experience of different student groups. A campus-level retention rate may suggest stability, while particular programs, student populations, or course pathways reveal preventable barriers to persistence. Without the ability to see retention patterns at the program, major, and student subgroup level, deans and department chairs couldn't identify where to intervene or how to tailor their approaches.

HelioCampus helped UMass Boston implement a Retention Exploratory Analysis dashboard with multi-factor capability: leaders can now analyze retention by major, admissions profile, race, and gender simultaneously. For a commuter institution whose incoming cohort demographics are actively shifting—with growing shares of first-generation and underrepresented students—that depth of insight is essential.





> **“As we’ve seen the trajectory of our incoming cohorts change, that also means we have to be really nimble in how we approach our retention engagement. Approaches that we have used in the past will not be current and appropriate as we have shifts in our incoming cohorts.”**
>
> Andrew Perumal, Associate Provost, University of Massachusetts Boston

Alongside retention analysis, UMass Boston deployed Course Success and Persistence dashboards that surface how student performance in specific courses affects semester-to-semester progression and long-term persistence. Some effects are immediate, pointing toward pedagogical intervention. Others emerge over time: underperformance in a prerequisite can become attrition from a major two semesters later. The dashboards have also helped the university identify and reduce “empty credits”—credits students attempt or earn that do not advance them efficiently toward degree completion because of course failure, misalignment with program requirements, excess credit accumulation, or delayed movement into the right academic pathway.

4

# Aligning Academic Resources with Institutional Goals

One of the most operationally consequential shifts at UMass Boston has come through Academic Cost Analytics—a module that transformed how academic hiring and instructional spending are managed across the institution.

Under the leadership of Provost Berger, UMass Boston chose to partner with HelioCampus to address longstanding challenges on campus; for example, academic hiring in Academic Affairs operated without a systematic framework. Each year brought a new round of requests from deans, with limited transparency about which positions had been approved and where the institution stood against any multi-year plan. Adjunct faculty instructional budgets were similarly difficult to manage, with recurring overspending in the fall followed by forced cutbacks in the spring—disruptions that cascaded into course sequencing and student access problems.





To address this particular issue, UMass Boston implemented a three-year hiring plan and worked with HelioCampus to develop dashboards that give deans and department chairs visibility into that plan, their unit's place within it, and how their instructional spending compares to enrollment-based benchmarks. Deans can now see where they are overspending relative to enrollment, identify fast-growing programs that may warrant accelerated hiring, and bring data-grounded requests to Academic Affairs.

> **"This really transforms how we want deans to be thinking about the requests they make to the provost's office. Now they have a set of tools that allow them to analyze instructional spending in meaningful detail and have those conversations with the departments."**
>
> Andrew Perumal, Associate Provost, University of Massachusetts Boston

This work is taking on even greater importance as UMass Boston transitions to a new all-funds budget model. Under the new model, deans have greater flexibility—and greater accountability—for how resources are used. Instructional staffing decisions, course assignments to non-tenure-track faculty, and adjunct allocation are now directly in their hands. Academic Cost Analytics is the tool that lets them make those tradeoffs transparently, balancing what a program costs to staff against the enrollment demand and student outcomes behind it.

A core lesson for UMass Boston has been that student success strategy and academic resource strategy must be integrated. Students cannot progress efficiently if required courses are unavailable, sequenced poorly, or staffed reactively. At the same time, the university cannot meet its mission-driven operating goals if instructional resources are allocated without regard to enrollment demand, course success, and program-level outcomes.

Provost Berger notes that "We are treating implementation as a transformational change-management effort, not simply a technology rollout. We have been and continue to invest in validation, training, repeated use in leadership conversations, and active engagement with deans and academic units."

> **"The dashboards have already become part of the operating rhythm of Academic Affairs: enrollment reviews, retention analysis, hiring conversations, budget planning, and discussions about course availability increasingly drew from the same shared data environment. We are being more strategic and effective in advancing our mission and strategic priorities."**





## WHAT'S NEXT:

# Assessment, Credentialing, and the Comprehensive Learner Record

UMass Boston is now implementing HelioCampus's Assessment Management platform—a move Associate Provost Perumal describes as central to where the institution needs to go next. As workforce development needs evolve and employers increasingly expect graduates to demonstrate specific skills alongside degrees, UMass Boston wants to give students the ability to show not just what they studied, but what they've mastered and how it connects to their career and academic goals.

The platform integrates with Canvas, linking program learning outcomes, skill mastery, and student reflection into a comprehensive learner record. The goal is a complete, longitudinal view of the student experience—one that connects academic performance to career readiness and graduate study in a way that is meaningful to both students and employers.

> **"The only way we can meaningfully do that for our students is through a comprehensive learner record," says Associate Provost Perumal. "It's almost bringing us to: here's what we need to achieve our strategic plan."**

# A Partnership That Moves With the Institution

When asked to serve as a reference for another institution evaluating HelioCampus, Associate Provost Perumal was direct: "HelioCampus has been one of the most consequential vendor partnerships I have overseen at UMass Boston. The platform and the team have materially advanced our strategic plan and several core operational functions, and I would recommend them without reservation."

What has distinguished the partnership, in his view, is that HelioCampus engages like a strategic partner rather than a transactional vendor. Post-implementation, the team has continued to support data model expansion, new dashboard development, and additional module implementations—responsive, knowledgeable about the specific pressures facing institutions like UMass Boston, and invested in the outcomes that matter.

For UMass Boston, the partnership has helped build institutional capacity at a pivotal moment. As the university advances its strategic plan, strengthens its R1 research identity, deepens its access mission, and moves toward a more transparent all-funds budget model, shared data has become essential infrastructure for student success and institutional sustainability.

**For more information on HelioCampus, visit heliocampus.com or email info@heliocampus.com**

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> **"HelioCampus is definitely the right partner. I can't think of a better way for platforms, support, and individuals to come together."**
>
> Andrew Perumal, Associate Provost, University of Massachusetts Boston



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High stakes. Higher education.