Data Analytics and Enterprise Risk Management

March 6, 2024

EACUBO

EACUBO 2024 Workshop
Partnership. Performance. Progress.
March 4-6 | Baltimore, Maryland

UMASS

What we hope you will learn....

The power of Enterprise Risk Management data:

- Increases transparency

- Helps set strategic priorities

- Creates a risk-informed culture

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Agenda

- University of Massachusetts Overview
- Data Generated by
  - ERM Risk Assessment
  - ERM Mitigation Strategy Assessment
- Data Supporting ERM Analyses
  - Facilities and Deferred Maintenance
  - Financial Sustainability
  - Enrollment
- Key Takeaways

Overview: University of Massachusetts

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About UMass

University of Massachusetts Amherst

- Land Grant Founded in 1863; Flagship Campus with Broad Research Mission
- Institute for Applied Life Sciences
- State of the art Core Facilities for campus and community users
- Center for Data Science
- UMass Donahue Institute
- Institute for Diversity Sciences
- Energy Transition Institute
- Center for Braiding Indigenous Knowledges and Science
- Elaine Marieb Center for Nursing and Engineering Innovation
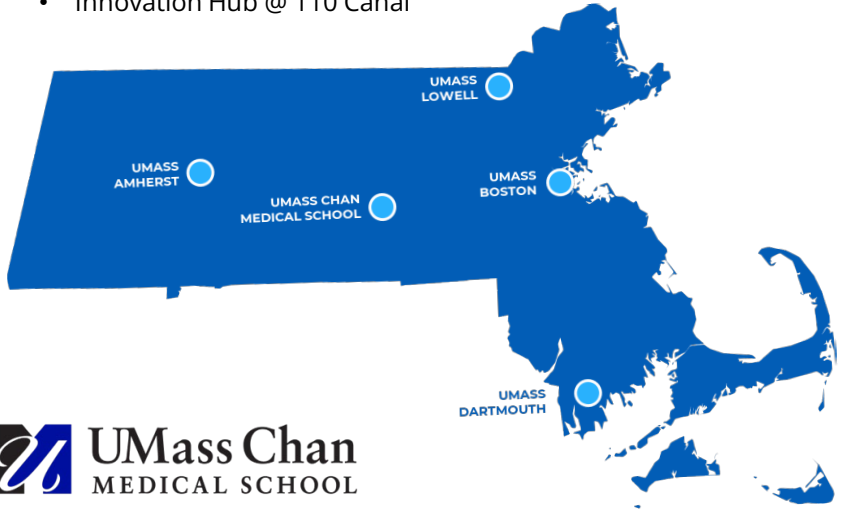
UMASS Affiliates

UMBA
- Established in 1960 to provide dormitories, dining commons, and other buildings for the University
- Acquires, constructs, and demolishes buildings, manages capital projects, and issues bonds on behalf of the University to finance or refinance capital projects

Foundation
- Established in 1950 to foster & promote growth, progress, & general welfare of the University
- Solicits, receives, & administers gifts & donations
- Maintains a portion of the University's investment portfolio, predominantly the endowment

UMASS LOWELL

- Wall Street Journal Ranked #1 Public in Massachusetts
- University Closely Engaged With Regional Industries
- Renowned For Technical Emphasis Such as Engineering, Advanced Materials Sciences and Nano-manufacturing
- Mass Medical Device Development Center (M2D2)
- Rist Institute for Sustainability and Energy
- N.E. Robotics Validation & Experimentation (NERVE) Center
- Raytheon-UMass Lowell Research Institute (RURI)
- Center for Population Health
- Innovation Hub @ 110 Canal

UMass Chan MEDICAL SCHOOL

- World-class biomedical research program
- Three graduate schools: T.H. Chan School of Medicine, Tan Chingfen Graduate School of Nursing and Morningside Graduate School of Biomedical Sciences
- Graduate Medical Education
- UMass Center for Clinical & Translational Science
- For Health Consulting
- Mass Biologics
- BRIDGE

UMass Boston

- Most diverse public university in New England, with over 50% of students first in family to go to college
- Impactful research with strengths in climate equity and costal resilience, health for diverse populations, education, and social justice
- Manning College of Nursing and Health Sciences is leading provider of health care professionals
- College of Management with extensive pathway partnerships
- School for the Environment and Stone Living Lab
- Paul English Applied Artificial Intelligence Institute
- On-campus Venture Development Center incubates technology and life sciences startups

UMass Dartmouth

- National Research University With Engineering, Cybersecurity, And Marine Sciences Emphasis (Dartmouth)
- School for Marine Science and Technology (New Bedford)
- Only Performing Art College in the system – College of Visual & Performing Arts
- Plastics Biodegradability Lab (New Bedford)
- UMass Law (Dartmouth)
- Center for Innovation & Entrepreneurship (Fall River)

UMASS GLOBAL

- Acquired in September 2021 to expand educational opportunities for adult learners
- 501(c)3 nonprofit based in CA serving adult learners in Massachusetts, across the nation, and across the world

Map showing UMass Lowell, UMass Amherst, UMass Chan Medical School, UMass Boston, UMass Dartmouth

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UMass by the Numbers

$4.1 billion annual FY24 budget

Nearly 74,000 students by headcount & **20,000** new graduates annually

$395 million in University-generated financial aid

$813 million in annual research & development

$687 million in state appropriation (not including CB, fringe, ARPA)

$153 million average monthly payroll

$86.5 million average monthly spend with over **30,000** vendors

26,000 employees (including students), **3rd largest** employer in Massachusetts

UMass Financial Accountability Framework

Independent & objective assurance that analyzes data, processes, policies & controls

Standard processes to provide reasonable assurance regarding achievement of objectives

Reliable, timely information that is accessible & understandable

Systematic approach to identifying, assessing & managing risks across the organization

OVERSIGHT INTERNAL CONTROLS ACCOUNTABILITY TRANSPARENCY RISK MANAGEMENT

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UMASS
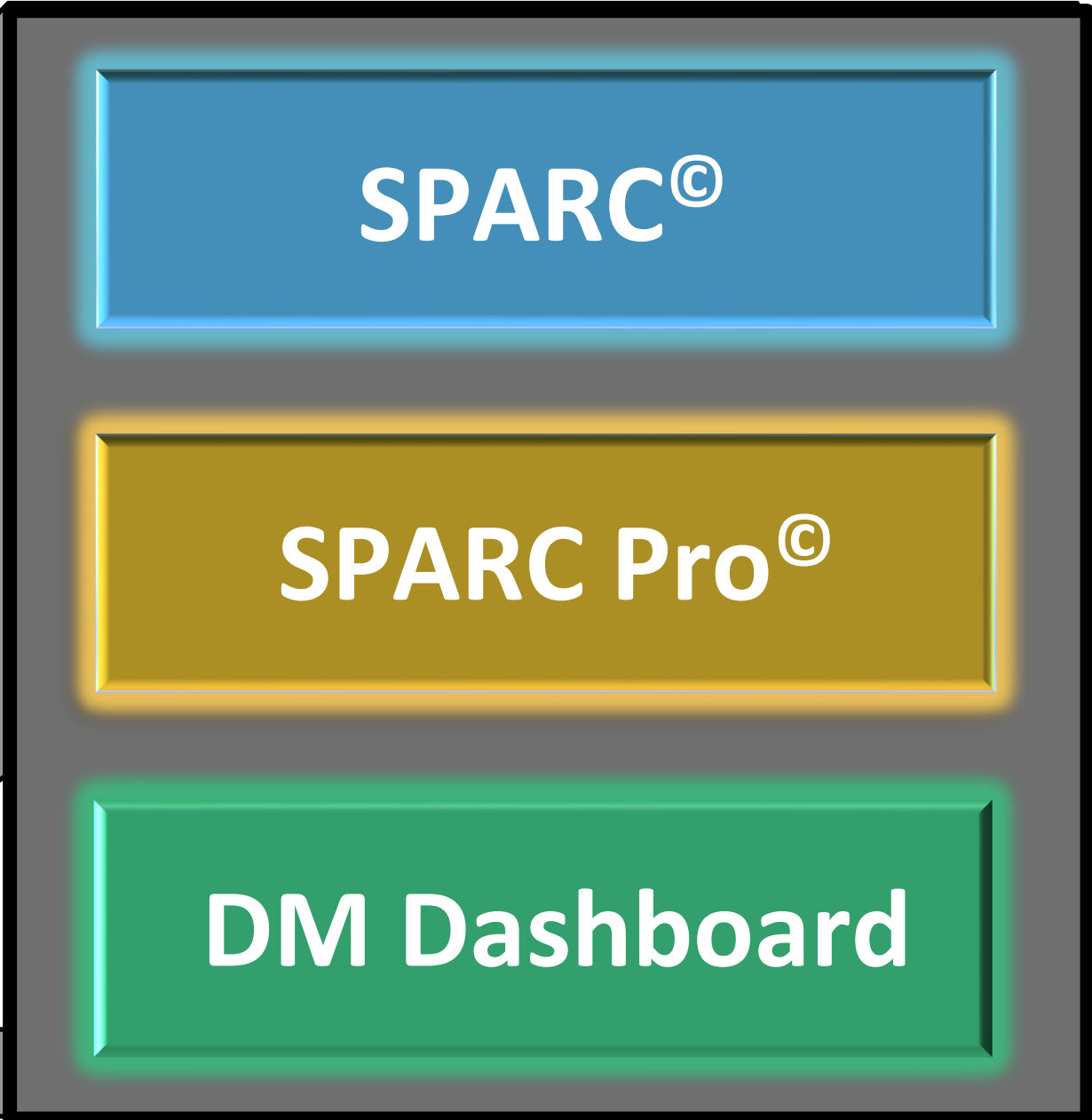
Data Generated by ERM:
Risk Assessment

slido

Which option do you most relate to?

ⓘ Start presenting to display the poll results on this slide.

ERM Governance Structure

Board
- Provides direction and guidance as needed

President's Council
- Provides direction and guidance as needed

ERM Exec. Committee
- Validates system-wide risks
- Prioritizes system-wide risks
- Affirms mitigation strategies for systemwide risks

ERM Working Group
- Identifies system-wide risks
- Assesses system-wide risks
- Develops/implements mitigation strategies for system-wide risks

Campus ERM Committees
- Identifies campus-level risks
- Assesses campus-level risks
- Mitigates campus-level risks

Two-Year ERM Program Cycle

Risk Assessment Process

- Evaluates **_inherent_** exposure of the University to a risk
- Assesses **_systemwide_** impact
- Rates risks across three factors
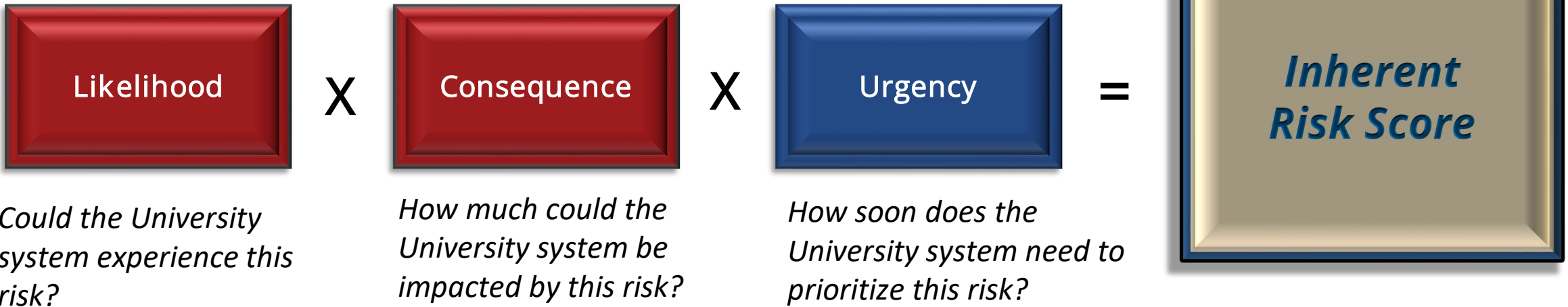
| Likelihood | X | Consequence | X | Urgency | = | Inherent Risk Score |

Could the University system experience this risk?

How much could the University system be impacted by this risk?

- *Operations*
- *Financial*
- *Legal/Compliance*
- *Workforce*
- *Reputation*
- *Life Safety*

How soon does the University system need to prioritize this risk?

■ Assessed by ERM Working Group
■ Assessed by ERM Executive Committee

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FY 2024 UMass Systemwide Risk Registry

■ Priority Risks

Rank	Risk
1	**Enrollment**
2	**Information Security**
3	**Facilities and Deferred Maintenance**
4	**Financial Sustainability**
5	**Student Health & Mental Health Support**
6	**Artificial Intelligence**
7	**International Activities**
8	**Research**
9	**Diversity, Equity, Inclusion & Accessibility**
10	**Attract, Recruit, Retain Faculty & Staff**

Rank	Risk
11	Information Privacy
12	All Hazards Planning & Response Capabilities
13	Labor Relations
14	Data Management
15	Vendor Risk Management
16	Sexual Assault Policies & Response Procedures
17	NCAA Regulations
18	IT Disaster Recovery
19	Continuity Planning
20	Environmental Health, Public Health, & Safety Regulations

Rank	Risk
21	Alcohol and Substance Abuse
22	Fraud, Waste, and Abuse
23	Crisis Communications
24	Uninsured Loss
25	Multi-State Payroll Tax
26	Multi-State Business Tax
27	Employment Laws and Regulations
28	Policies and Procedures Regarding Minors on Campus
29	Academic Quality and Standards
30	Oversight of Student Organizations

Using Risk Assessment Data

FY22 Risks Ranked Based on Highest Legal/Compliance Exposure

Listed by highest legal/compliance exposure, and then by Inherent Risk Score

Highest Legal/Compliance Exposure

- Information Security
- Research
- Diversity, Equity, Inclusion & Accessibility
- Employment Laws & Regulations
- Academic Quality & Standards

Key

| Highest Legal/Compliance Exposure |
| Medium Legal/Compliance Exposure |
| Lower Legal/Compliance Exposure |

Medium Legal/Compliance Exposure

Facilities & Def. Maintenance	Sex. Assault Policies & Response Proced.
Student Hlth & Mental Hlth Support	Env. Hlth, Public Hlth, & Safety Regs
Artificial Intelligence	Alcohol and Substance Abuse
International Activities	Immigration Rules and Regulations
Information Privacy	Fraud, Waste, and Abuse
All Hazards Plans & Response Cap.	Multi-State Payroll Tax
Vendor Risk Management	Multi-State Business Tax
NCAA Regulations	Policies/Procedures Minors on Campus

Lower Legal/Compliance Exposure

Enrollment	IT Disaster Recovery
Financial Sustainability	Continuity Planning
Attract, Recruit, Retain Faculty/Staff	Crisis Communications
Labor Relations	Uninsured Loss
Data Management	Oversight of Student Organizations

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Data Generated by ERM:
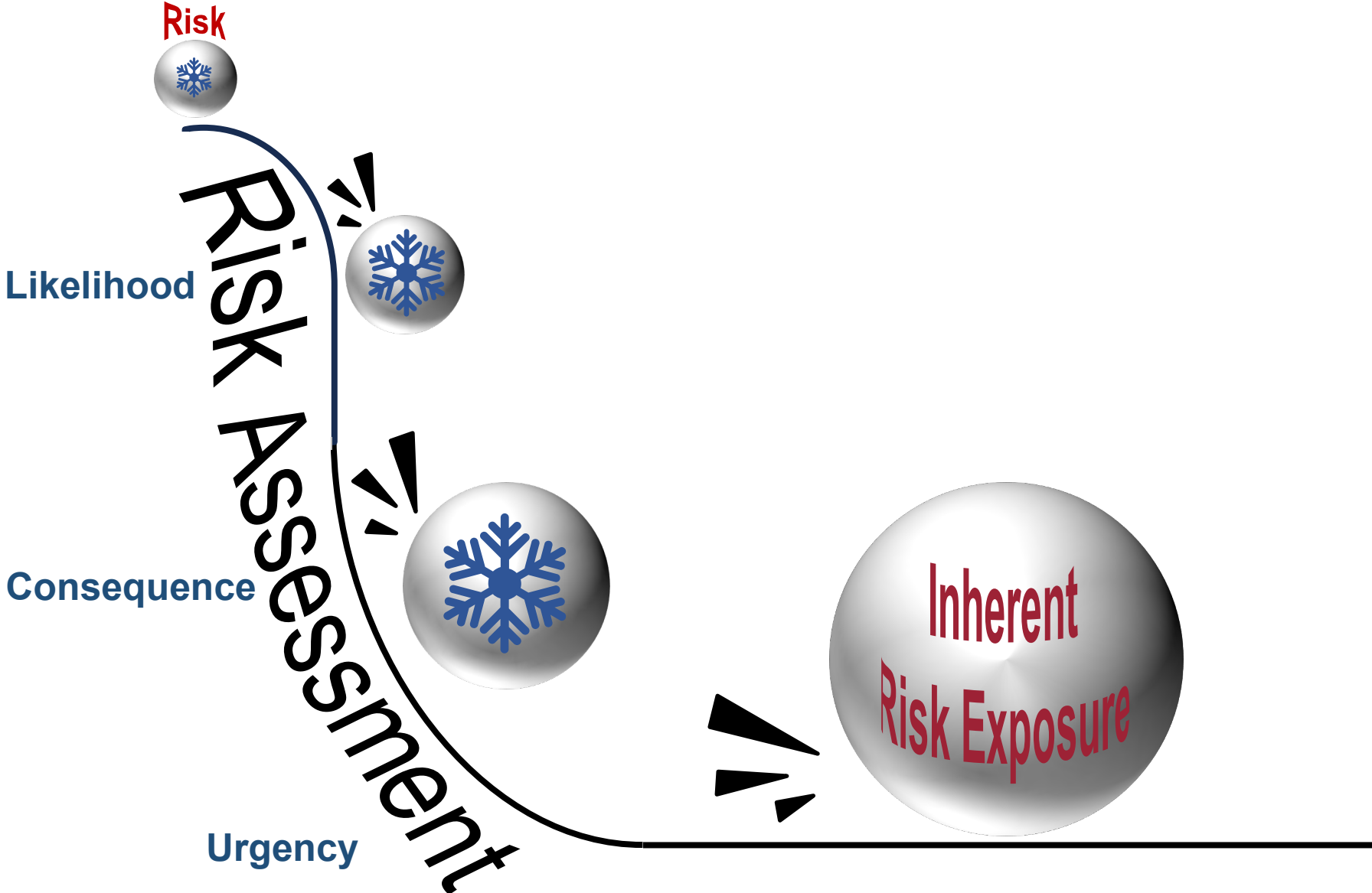## Mitigation Assessment

Goals of Mitigation Assessment

- Document risk mitigation strategies for *transparency*

- *Correlate* assessment of risk mitigation strategies to a risk's assessed inherent risk exposure

- Demonstrate *impact* of mitigation strategies on risk exposure

To achieve these goals, we needed to create our own assessment tool.

Why?

Assessment of Risk Exposure

Risk

Likelihood

Consequence

Urgency

Risk Assessment

Inherent
Risk Exposure

Traditional Mitigation Assessment

Mitigation

Resiliency

Cost Benefit Analysis

Efficiency

Alignment with Goals and Objectives

Inherent Risk Exposure
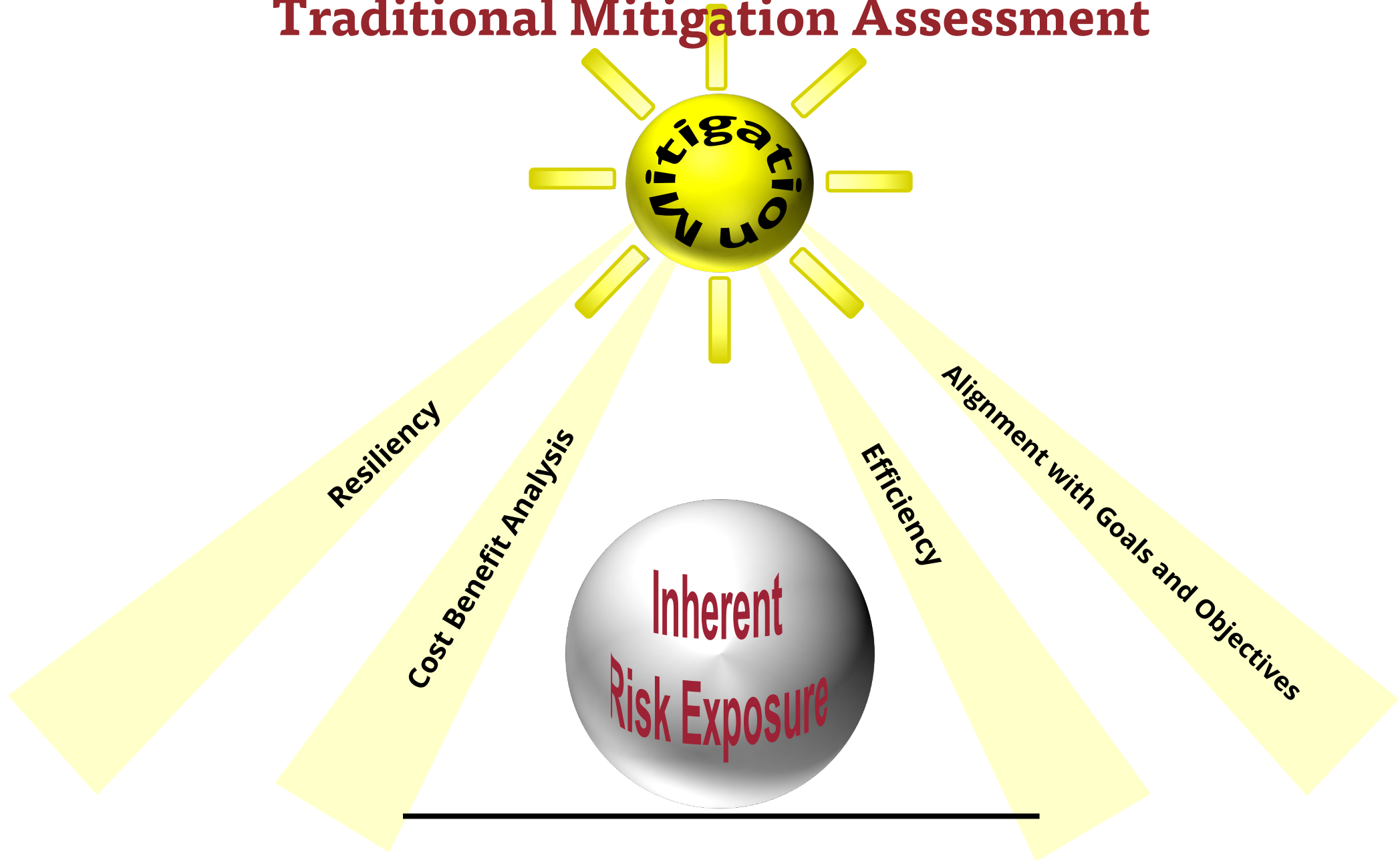
Correlation of UMass Risk Assessment and Mitigation Assessment

Mitigation

Likelihood
Consequence
Urgency*

Informed by University Data

Residual
Risk Exposure

UMass Mitigation Assessment Tool for Reducing Risk Exposure

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MATRX Methodology

MATRX assesses the effectiveness of mitigation strategies on each risk's specific range of exposure through three lenses.

Individual Effectiveness — Measure the effectiveness of an *individual* mitigation strategy on reducing risk exposure

Comparative Effectiveness — *Compare* the effectiveness of *multiple* mitigation strategies on reducing risk exposure

Aggregate Effectiveness — Measure the *aggregate* effectiveness of all risk mitigation strategies on reducing risk exposure

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Relationship of Data

Risk Assessment → Risk Ranking and Prioritization

Mitigation Implementation & Assessment → Informed by Data Generated through Accountability Tools

Residual Risk → Follow on actions necessary to be within risk appetite

Data Supporting ERM Analyses:
Facilities and Deferred Maintenance

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Relationship of Data

Facilities & Deferred Maintenance

Risk Assessment

No. 3 Risk

7 Strategies

Mitigation

Informed by:
- Deferred Maintenance Dashboard

Moderate reduction

Residual Risk
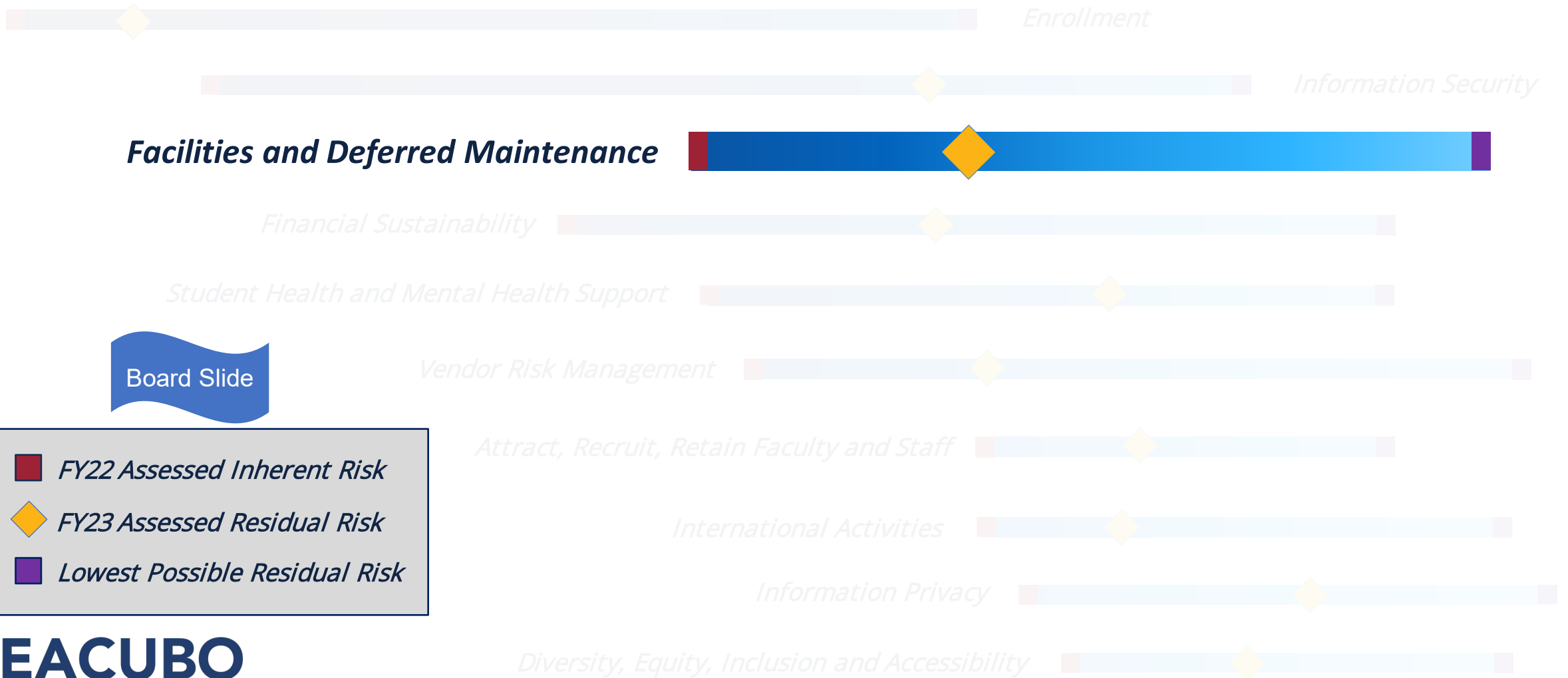
Increased focus on capital projects and tracking against deferred maintenance targets

Mitigation Data: Movement in Reducing Risk Exposure

Highest Inherent Risk   Range of Potential Risk Exposure   **Lowest Residual Risk**

Enrollment

Information Security

Facilities and Deferred Maintenance

Financial Sustainability

Student Health and Mental Health Support

Board Slide

Vendor Risk Management

Attract, Recruit, Retain Faculty and Staff

🟥	*FY22 Assessed Inherent Risk*
🔶	*FY23 Assessed Residual Risk*
🟪	*Lowest Possible Residual Risk*

International Activities

Information Privacy

Diversity, Equity, Inclusion and Accessibility

🏢 Facilities & Deferred Maintenance

Rank	Mitigation Strategy as of June 30, 2023	Systemwide Status
1	**Reaching/Maintaining Keep Up Targets**	Partially*
	Reaching/Maintaining Catch Up Targets	Partially*
2	**Annual Update of Campus Deferred Maintenance (Gordian)**	Fully
	Capital Policy & Standards	Fully
	Reporting – Biannual Capital Plan	Fully
	Reporting – Quarterly Capital Reporting Including Keep Up and Catch Up	Partially
3	Tracking Spending Against DCAMM Contracts	Partially
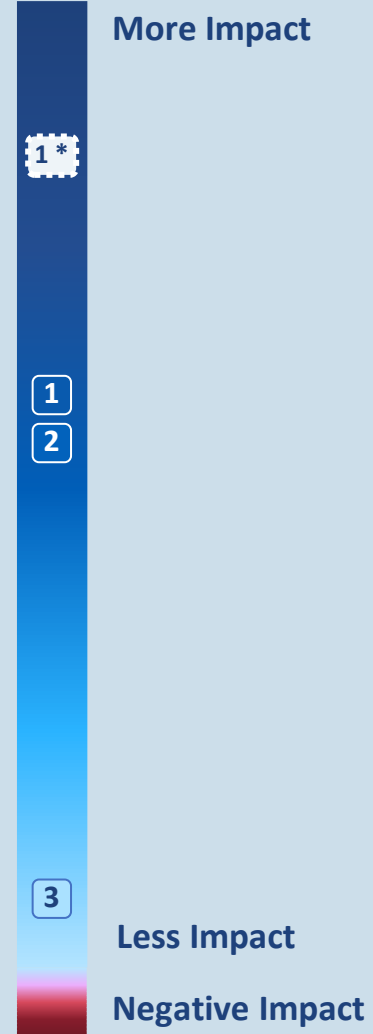
* The impact of these strategies is significantly greater if these strategies were fully implemented. See scale.

7 Strategies

Scale: Assessed Systemwide Impact of Mitigation Strategy by Rank

More Impact

1 *

1

2

3

Less Impact

Negative Impact

Capital Plan

What is it?
Comprehensive, five-year plan of capital investment based on financial planning, policy priorities and strategic plans to ensure effective investment in the future and management of capital assets

What is included?
- ✓ Prioritized list of projects approved by the President and Board of Trustees
- ✓ Connection to strategic plans
- ✓ Funding sources of each project
- ✓ Impacts on deferred maintenance and key ratios

When do we do it?
Developed and presented to the Board of Trustees biennially; updates prepared and presented quarterly

Why do we do it?
- ✓ To identify and prioritize capital needs
- ✓ To evaluate available sources of funding
- ✓ To understand the financial impact and timing of needs in relation to the financial forecast
- ✓ To promote effective communication with stakeholders on capital needs and borrowing plans

Who is involved?
- ✓ President's Office – facilitates development of the capital plan, quarterly reporting and financial forecast; provides assumptions and conducts analysis to support consistent and realistic planning
- ✓ Campuses - utilize master and strategic plans to develop a capital program that reflects the strategic priorities, deferred maintenance needs and unique needs for that campus
- ✓ UMass Building Authority (UMBA) – serves the University through the planning, financing, design, construction, acquisition, capital maintenance, and replacement of University buildings, infrastructure, and real estate

Capital Projects Approval

Approving Authority

Board of Trustees
- $10M+ total project cost, or
- $2M+ total project cost and requires debt

President
- $2M-$10M total project cost
- Does not include debt

Campus
- <$2M total project cost

Project Status

Authorized
- Initial authorization from Board or President (Vote 1)

Approved
- Final approval from Board or President (Vote 2 & Vote 3)

Conceptual (not yet authorized)
- Priority projects planned but not yet authorized (Campus strategic, master and energy plans)

University Deferred Maintenance: By the Numbers

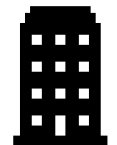**$4.8B** 10-year backlog
(24% replacement value)

$3.6B backlog in E&G

$3.5B timeframe A (1-3 yrs)
(71% of total backlog)

$1.3B backlog in Aux

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Deferred Maintenance - Annual Investment

Established Definitions and Set Targets Based on Industry Best Practice

Keep Up:

- Defined as the annual investment needed to ensure buildings perform properly and reach their useful lives.
- Includes projects funded from a recurring funding source.
- Includes preventive/proactive maintenance funded from the operating budget.

Catch Up:

- Defined as projects funded by one-time funds such as bond proceeds, State resources (also typically bond funds), and in some cases reserves.
- Large backlog that requires funding over a specified time period.

Annual Investment Targets:

- Keep Up - defined as the annual minimum investment required to prevent the deferred maintenance backlog from growing. Gordian calculates the target by discounting the total cost necessary to replace each building component at the completion of its useful life.
- Catch Up – defined as the annual investment needed to eliminate the backlog over a specified time period. This target is still to be determined.

Deferred Maintenance - Annual Investment

FY23 Keep Up
$100 M

FY23 Catch Up
$119 M

FY23 Keep Up
$282 M

FY23 Catch Up
$322 M

35% of target

37% of target

System DM Spending

Chart: System DM Spending ($ Millions), bars showing Keep Up (blue) and Catch Up (red), with Keep-Up Target (dotted line)

Year	Keep Up	Catch Up	Total
2020	90	217	307
2021	62	178	240
2022	67	159	225
2023	100	119	219

Legend: ■ Keep Up ■ Catch Up •••• Keep-Up Target

- Created a deferred maintenance (DM) spending dashboard to report spending data in real time

- Allows for greater clarity on actuals against targets; enhances transparency

- Spending in recent years has fallen short of targets; total backlog has remained flat

- Current capital plan continues to address DM needs; significant investments required

- UMass will continue to advocate for state resources

Spending Key
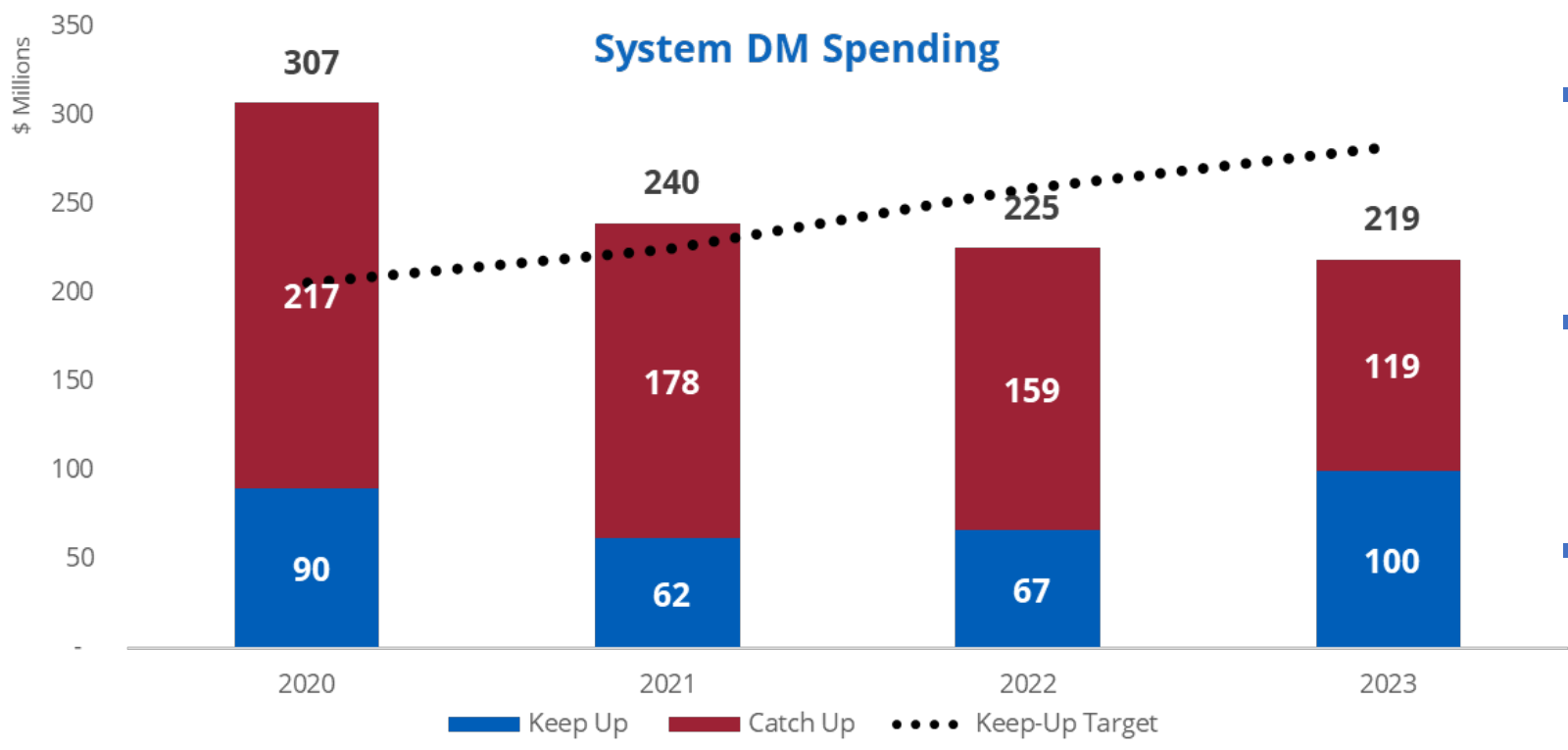
Actual	Target

Note: UMass Chan data campus-reported; not derived from dashboard

Example Deferred Maintenance: Timeframe A (1-3 Years)

Board Slide

- Building Envelope
- Building Systems
- Infrastructure
- Safety/Code
- Space Improvement
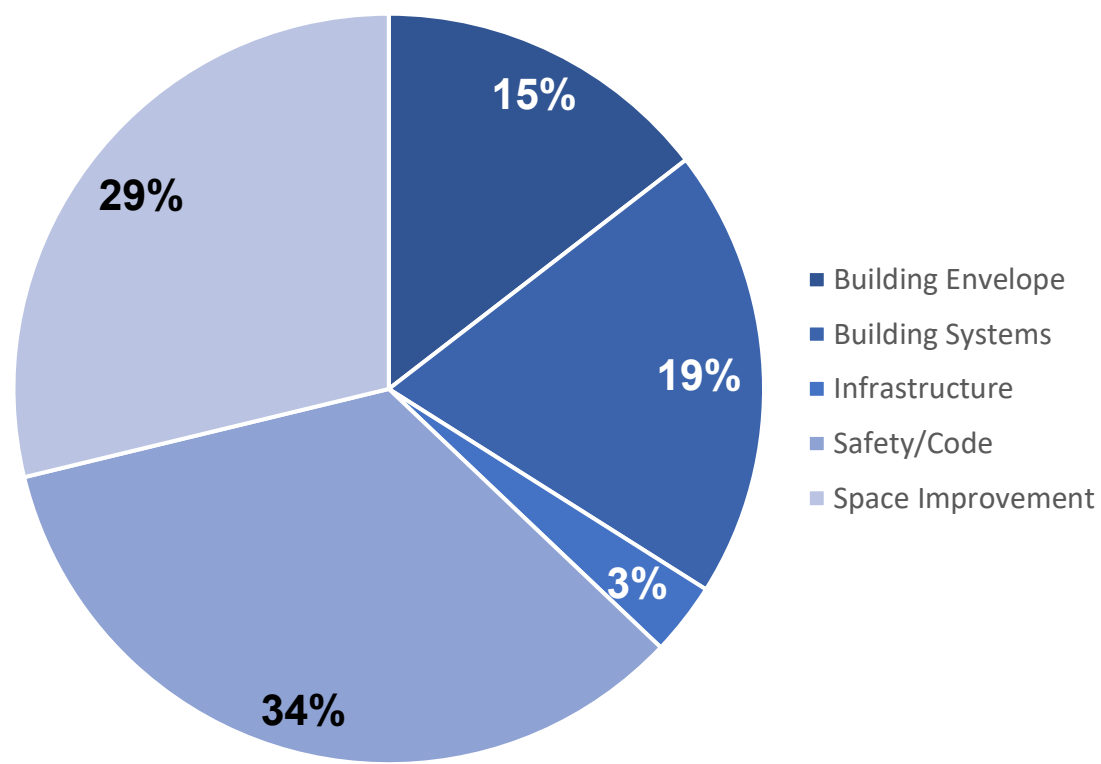
Top 10 Building Needs – Timeframe A

Building	Project Cost ($ millions)	FCI[1]	E&G[2] vs Aux[3]
Building 1	12.2	100%	E&G
Building 2	10.4	100%	Aux
Building 3	10.0	100%	E&G
Building 4	8.6	100%	E&G
Building 5	7.0	100%	E&G
Building 6	5.2	100%	E&G
Building 7	5.2	100%	E&G
Building 8	.7	100%	E&G
Building 9	12.2	98%	E&G
Building 10	1.6	98%	E&G
Top 10 – Timeframe A	**73.0**		
Other buildings	1,028.4		
Total Timeframe A	**1,101.4**		

Source: Gordian   (63% of total backlog)

1. Facility Condition Index; reflects total DM cost as a % of replacement value
2. Education & General
3. Auxiliary

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Deferred Maintenance – Progress to Date

Backlog Tracking

Engaged Gordian to assess system-wide deferred maintenance

Central Reporting Dashboard

Built dashboard to report DM spending via source systems

Next Steps

Setting, tracking, & achieving spending targets

Reporting Methodology

Created methodology designating spending as Keep-Up vs. Catch-Up

Capital Policy Standards

Formalized concept of target setting & process of tracking DM spending

Data Supporting ERM Analyses:
Financial Sustainability

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Relationship of Data

Financial Sustainability

Risk Assessment

No. 4 Risk

23 Strategies
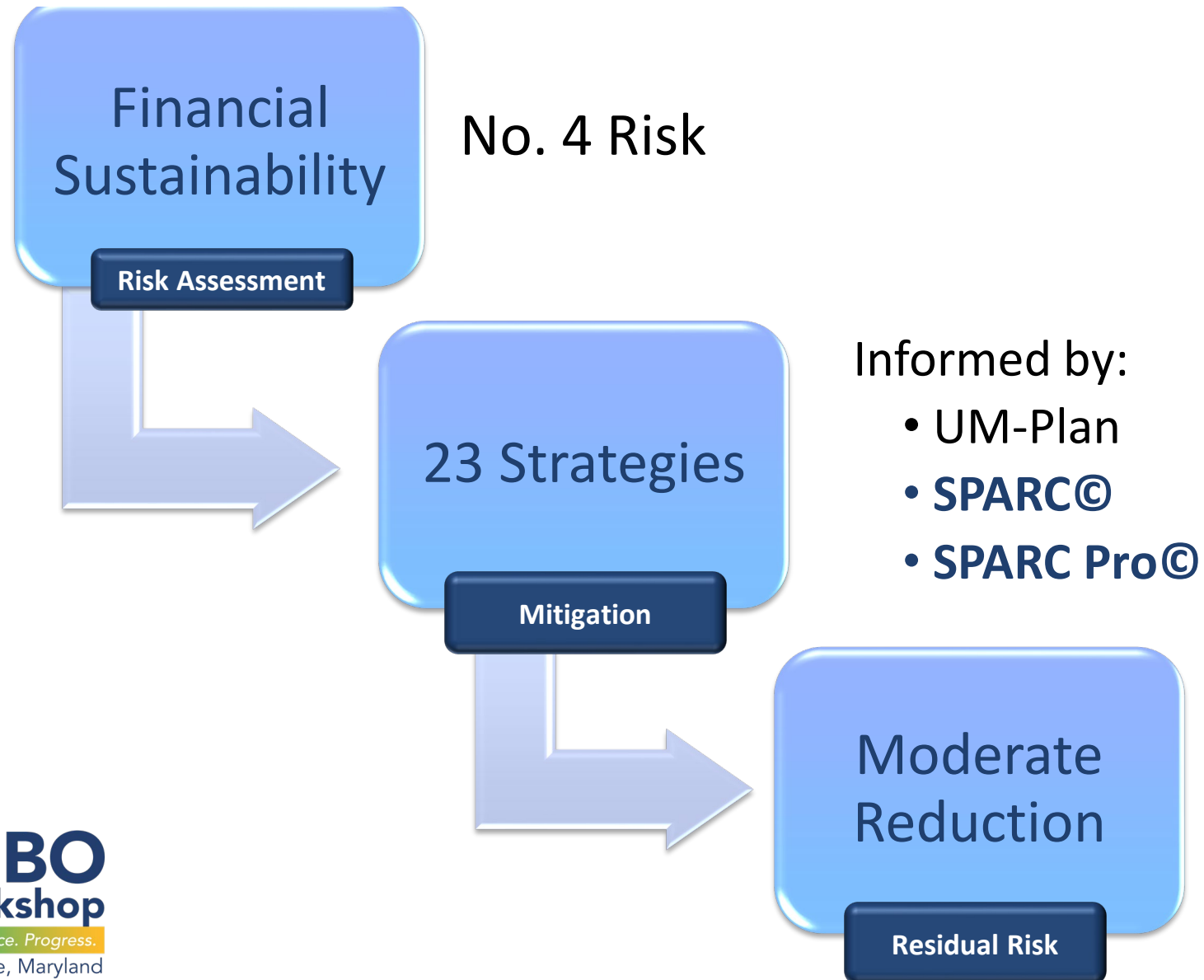
Mitigation

Informed by:
- UM-Plan
- **SPARC©**
- **SPARC Pro©**

Moderate Reduction

Residual Risk

- Maintain current controls
- Continue to increase transparency through Accountability Tools

Mitigation Data: Movement in Reducing Risk Exposure

Highest Inherent Risk | Range of Potential Risk Exposure | Lowest Residual Risk

Enrollment

Information Security

Facilities and Deferred Maintenance

Financial Sustainability

Student Health and Mental Health Support

Vendor Risk Management

Attract, Recruit, Retain Faculty and Staff

International Activities

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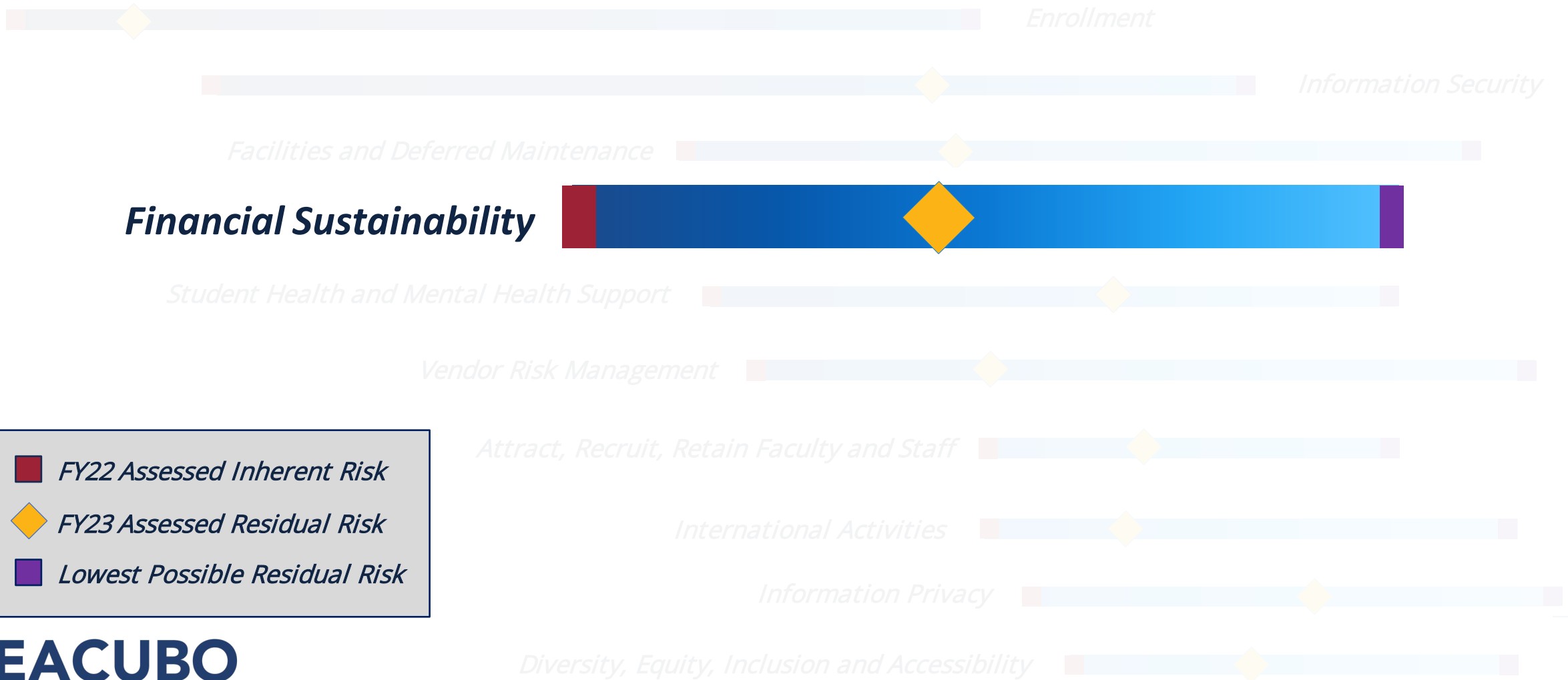
Legend:
- FY22 Assessed Inherent Risk
- FY23 Assessed Residual Risk
- Lowest Possible Residual Risk

Financial Sustainability

Rank	Mitigation Strategy as of June 30, 2023	Systemwide Status
1	State Financial Support	Fully
	State Funding of CBA Increases	Planned
2	Reporting – Quarterly Budget Projections and Annual Budget Reporting	Fully
	Reporting – Quarterly Capital Reporting and Biennial Capital Plan	Fully
3	Cash Flow Modeling and Projections	Fully
	Reporting – Annual Five-Year Forecast Refresh	Fully
	Reserve Policy	Fully
	UMass Global Financial Reporting	Fully
4	Maintaining Line of Credit	Fully
	Operating Cash Invested with Foundation	Fully
	Implementation of UMPlan for Annual Budgeting	Fully
5	Chart of Accounts Update	Partially
	SPARC Dashboard*	Partially
	Reaching/Maintaining 2% Operating Margin	Partially
6	UMPlan – Financial Forecast Model	Partially
	UMPlan – Tuition Planning Module	Partially
	Compliance with Federal Grants	Fully
7	Monitoring Standard Metrics	Fully
	Adoption and Forecasting of Changes in GASB	Fully
	Appropriate Account Treatment for P3s	Fully

23 Strategies

Scale: Assessed Systemwide Impact of Mitigation Strategy by Rank

More Impact

1
2

3   *SPARC Fully Implemented
4

5
6

7

Less Impact

Negative Impact

What is SPARC?

Original release Spring 2022; enhancements continue

Strategic Planning Analytics and Reporting for Campuses (SPARC)

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- SPARC stands for "**Strategic Planning Analytics and Reporting for Campuses**"

- SPARC dashboard is an innovative tool for key stakeholders' users to conduct department level analysis

- Aggregates live data from source systems, including PeopleSoft finance, student, procurement and HR

- Includes choice to select college and department level data;

- Examples of the types of data:

  - Enrollment trends including student mix and overall growth, tuition & fee revenues, and financial aid

  - Employee resource allocation, including faculty by tenure status, administrative staff, student employees, and payroll source

  - Contract Pipeline includes visibility into contract request, contract creation, and contract aging

  - Contract Utilization Dashboard includes visibility into contract utilization

Long-Term Planning

Data creates transparency and drives risk mitigation

HR
- Position data
- Employee data

Financial
- Expense actuals
- Revenue actuals

Procurement
- Contracts
- Utilization

Student
- Admissions data
- Enrollment & tuition data

SPARC*

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- Advanced analytics
- Financial aid, enrollment analysis
- Revenue and expense analysis
- Procurement savings and contract tracking

Strategic Planning Analytics & Reporting for Campuses

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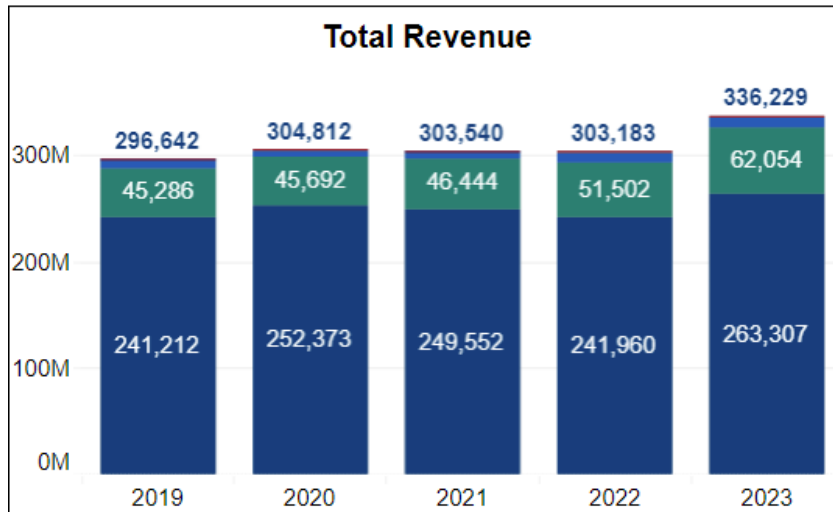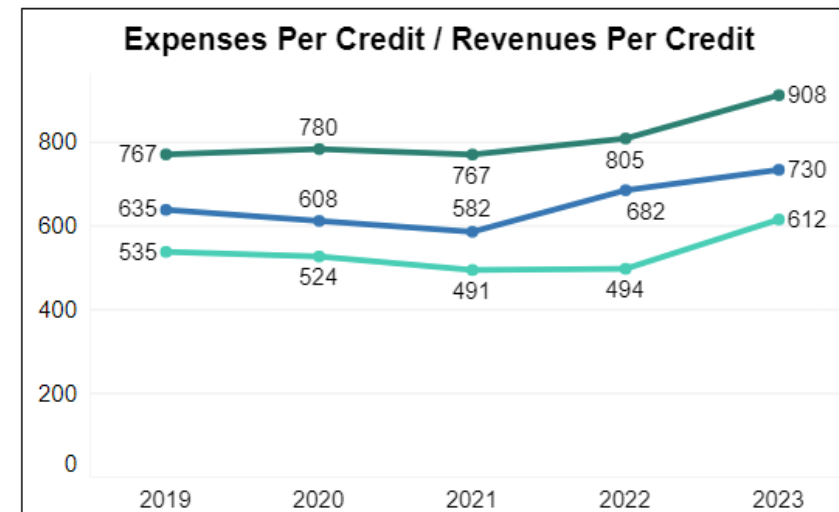
SPARC: Department Analysis

Description:
Simple, easy to consume dashboards to provide real-time, consistent information by college & department
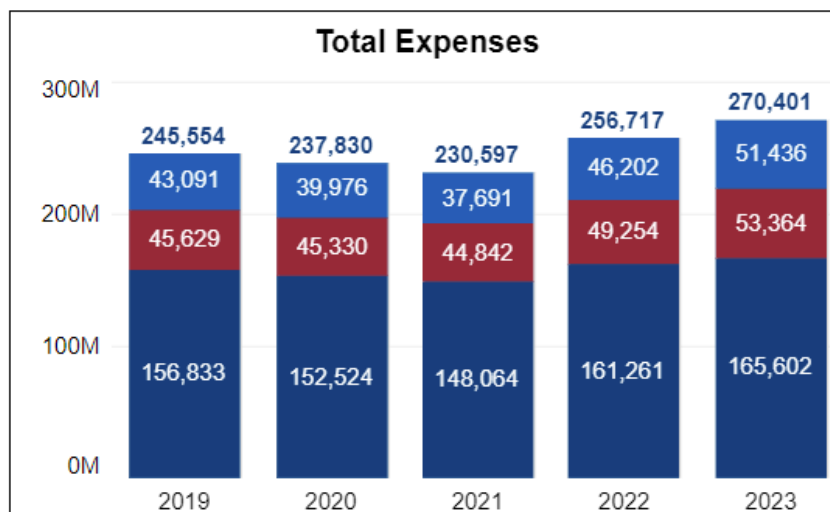
Example Data:
- Financial Aid
- Grants
- Employees
- Faculty by Tenure Status

Total Revenue

Year	Total	Gross Tuition & Fees	Grants Revenue	Other
2019	296,642	241,212	45,286	
2020	304,812	252,373	45,692	
2021	303,540	249,552	46,444	
2022	303,183	241,960	51,502	
2023	336,229	263,307	62,054	

Expenses Per Credit / Revenues Per Credit

Year	Gross Revenue per Credit	Expenses per Credit	Net Revenue per Credit
2019	767	635	535
2020	780	608	524
2021	767	582	491
2022	805	682	494
2023	908	730	612

Total Expenses

Year	Total	Payroll	Fringe	Other Expenses
2019	245,554	156,833	45,629	43,091
2020	237,830	152,524	45,330	39,976
2021	230,597	148,064	44,842	37,691
2022	256,717	161,261	49,254	46,202
2023	270,401	165,602	53,364	51,436

Credits Taken

Year	Credits Taken
2019	386,734
2020	390,899
2021	395,902
2022	376,629
2023	370,228

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Total Payroll *($ in Thousands)*

138,172	27,430

0   20,000   40,000   60,000   80,000   100,000   120,000   140,000   160,000

■ Internal   ■ External

Total Payroll	Total FTEs
165,602	1,421
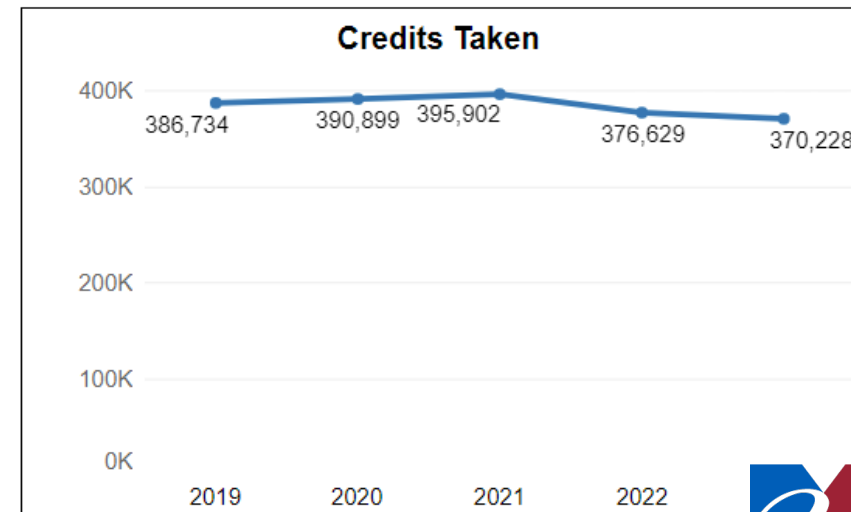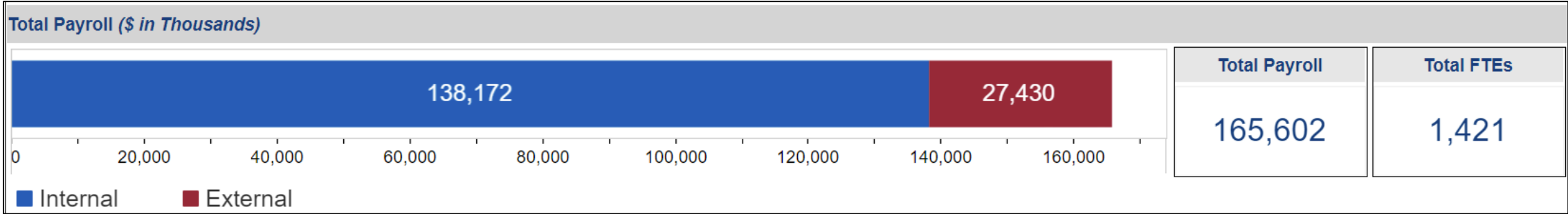
Description:
Simple payroll and FTE information

Example Data:
- Faculty by Tenure Status
- Student Employees
- Earnings by Type
  - Payroll
  - Ad comp
  - Overtime

Employee Detail *($ in Thousands)*   Summary ▼

Employee Type Description	Allocated FTE	
Faculty	854	85,161
Executive/Admin/Managerial	46	
Professional Nonfaculty	420	25,743 / 16,101
Secretarial/Clerical	76	
Technical/Paraprofessional	25	
Skilled Crafts	Null	
Service Maintenance Workers	Null	
Student	Null	12,384

0   20,000   40,000   60,000   80,00

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SPARC: Student Revenue

Total Student Tuition & Fees Revenue ($ in Thousands)

	Gross Revenue	Net Revenue
	263,307	153,584

Credits Taken	Gross Revenue
370,228	263,307

Total Financial Aid	Total Financial Aid %	Net Revenue
(109,723)	42%	153,584
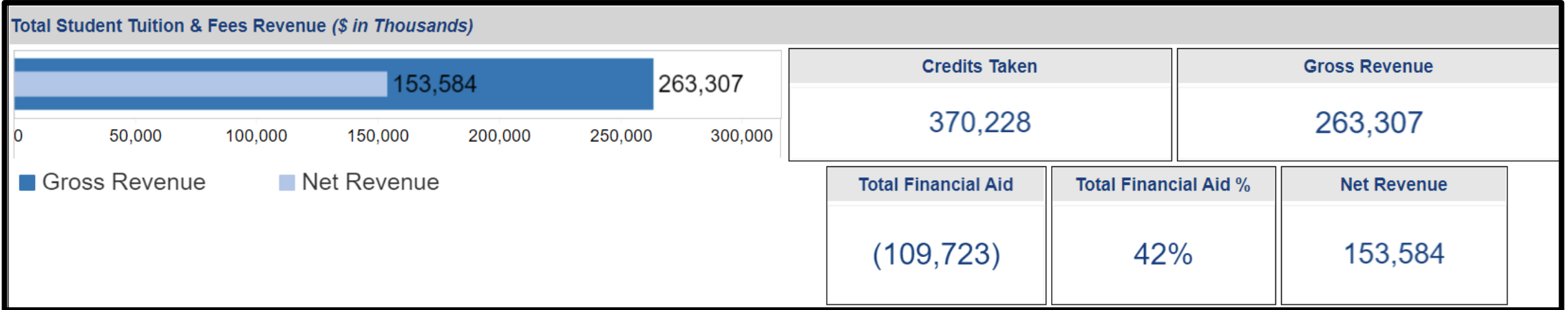
Description:

Allocation of Tuition revenue by department (otherwise revenue is consolidated into one general fund and not viewable by department)

Academic Term Detail ($ in Thousands)

Term Description	Credits Taken		
Fall	174,689	74,235	130,499
Spring	157,874	60,736	112,680
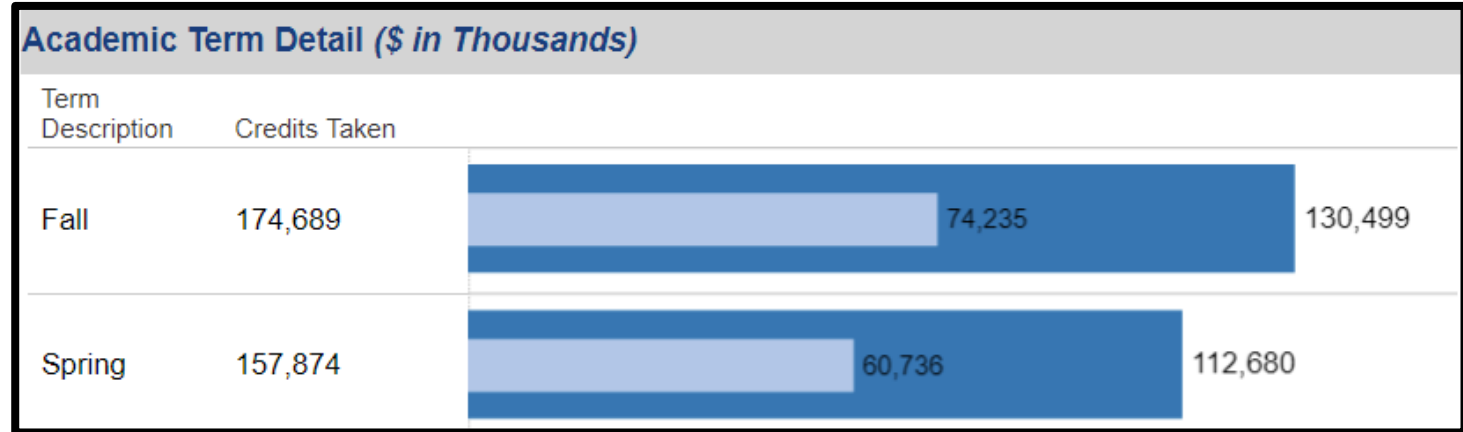
	Credits Taken	Gross Revenue	Total Financial Aid	Total Financial Aid %	Net Revenue
Fall	174,689	130,499	(56,264)	43%	74,235
Spring	157,874	112,680	(51,944)	46%	60,736

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Description:

Simple trending of total revenue, expenses and university support at a particular college or department

Financial Summary ($ in Thousands)		FY19 - Actuals	FY20 - Actuals	FY21 - Actuals	FY22 - Actuals	FY23 - Actuals
Revenues	Gross Tuition & Fees	29,196	29,211	28,102	27,563	35,066
	Total Financial Aid	(7,461)	(8,314)	(8,828)	(9,525)	(8,408)
	Net Tuition & Fees	21,735	20,897	19,275	18,038	26,658
	Grants Revenue	117	35	5	13	186
	Sales & Services	9	1			
	Other Revenues	546	481	330	368	566
	Total Revenues	22,407	21,414	19,610	18,419	27,410
Expenses	Payroll	14,171	13,694	13,645	14,855	14,939
	Fringe	4,648	4,634	4,820	5,254	5,532
	Other Expenses	1,212	673	498	741	807
	Total Expenses	20,031	19,001	18,962	20,849	21,277
Summary	**Total Revenues**	**22,407**	**21,414**	**19,610**	**18,419**	**27,410**
	Total Expenses	**20,031**	**19,001**	**18,962**	**20,849**	**21,277**
	University Support	**(2,376)**	**(2,414)**	**(648)**	**2,430**	**(6,133)**

* Revenues do not include State Appropriations that get allocated to campuses

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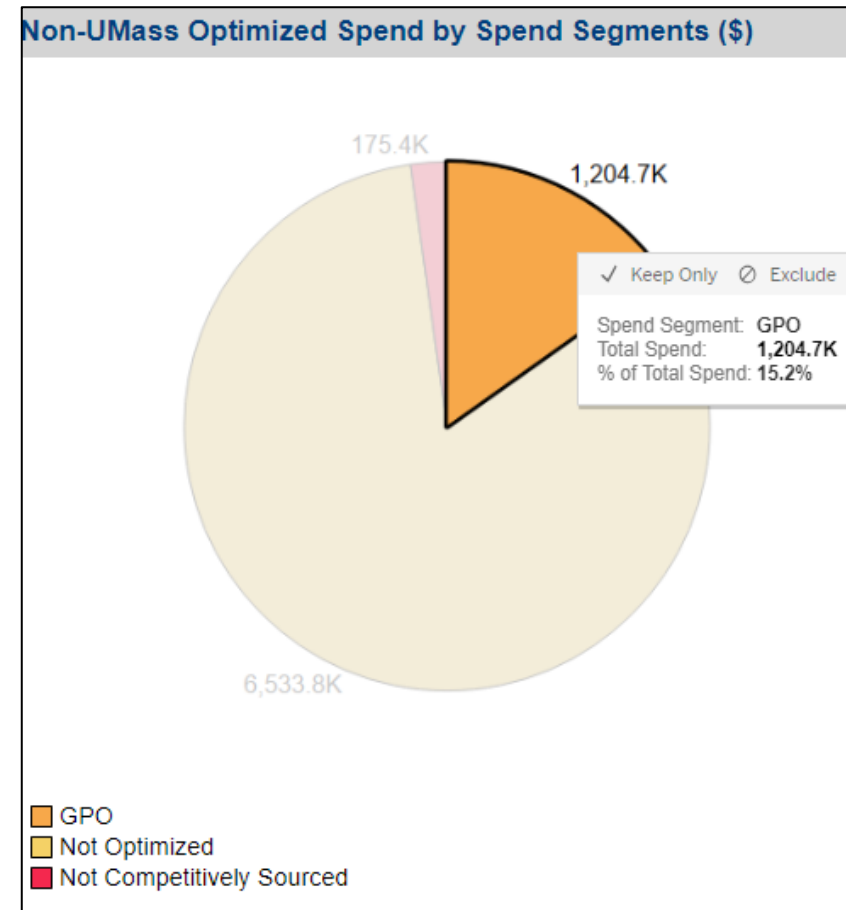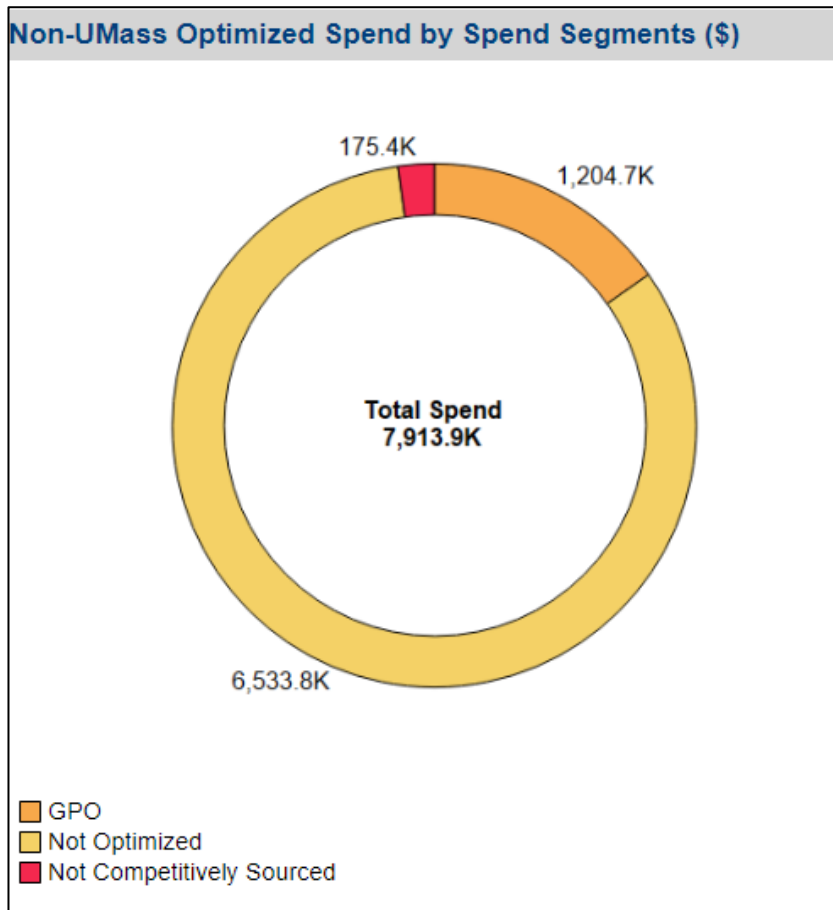March 4-6 | Baltimore, Maryland

SPARC Pro: Contract Utilization

Description:

- High level view of non-optimized spend

- Detailed spend data by transactions including key data points to better understand user behavior

Non-UMass Optimized Spend by Spend Segments ($)

Total Spend
7,913.9K

175.4K
1,204.7K
6,533.8K

- GPO
- Not Optimized
- Not Competitively Sourced

Non-UMass Optimized Spend by Spend Segments ($)

175.4K
1,204.7K
6,533.8K

✓ Keep Only   ⊘ Exclude

Spend Segment: GPO
Total Spend: 1,204.7K
% of Total Spend: 15.2%

- GPO
- Not Optimized
- Not Competitively Sourced

Data Supporting ERM Analyses:
Enrollment

Relationship of Data

Enrollment No. 1 Risk

Risk Assessment

22 Strategies

- Informed by:
  - **Real-Time Enrollment and Admissions Tracking**
  - **SPARC©**

Mitigation

Some reduction

- Evaluate additional opportunities for recruitment
- Evaluate additional opportunities for retention

Residual Risk

Mitigation Data: Movement in Reducing Risk Exposure

Highest Inherent Risk	Range of Potential Risk Exposure	Lowest Residual Risk

Enrollment

Information Security

Facilities and Deferred Maintenance

Financial Sustainability

Student Health and Mental Health Support

Vendor Risk Management

Attract, Recruit, Retain Faculty and Staff

International Activities

Information Privacy

Diversity, Equity, Inclusion and Accessibility

Legend:
- ■ *FY22 Assessed Inherent Risk*
- ◆ *FY23 Assessed Residual Risk*
- ■ *Lowest Possible Residual Risk*
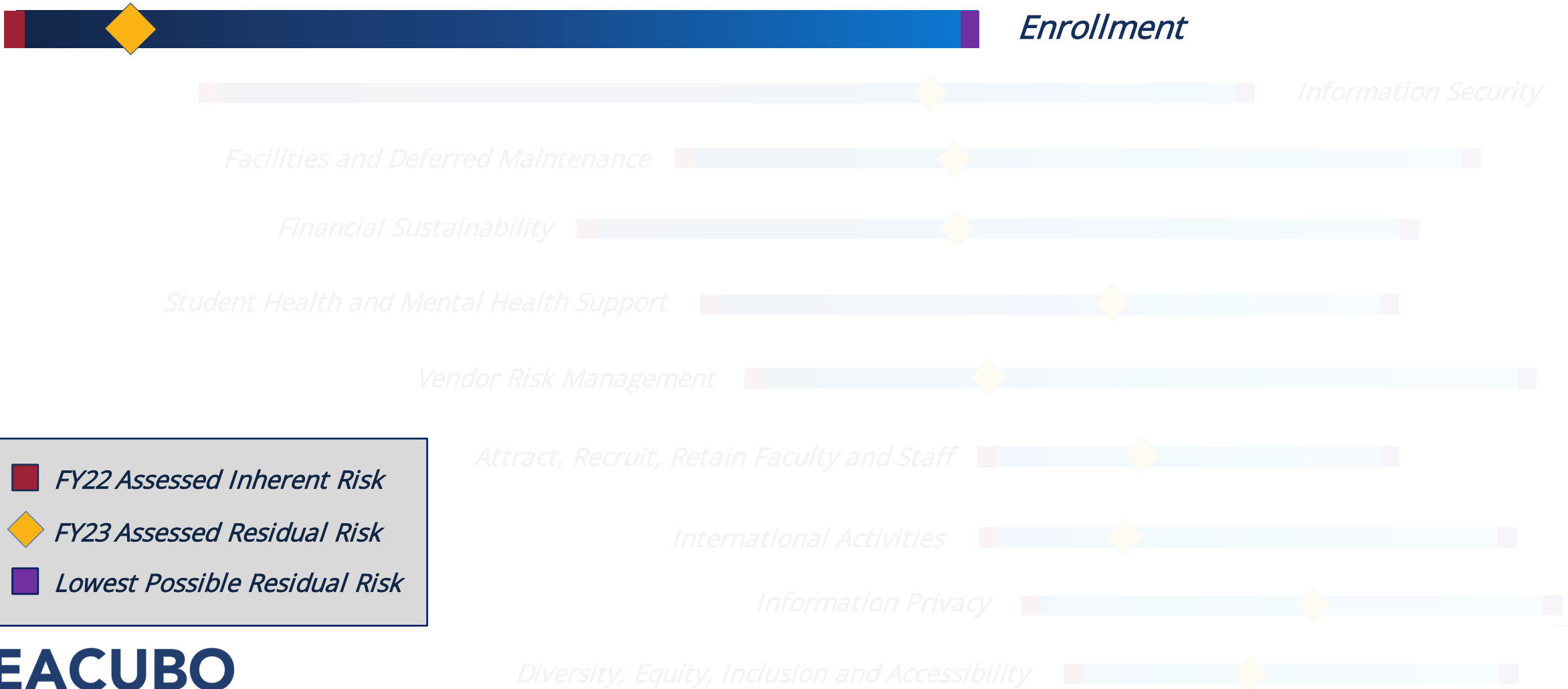
Rank	Mitigation Strategy as of June 30, 2023	Systemwide Status
1	Real-Time Admissions and Enrollment Tracking	Fully
2		
3		
4		
5		
6		
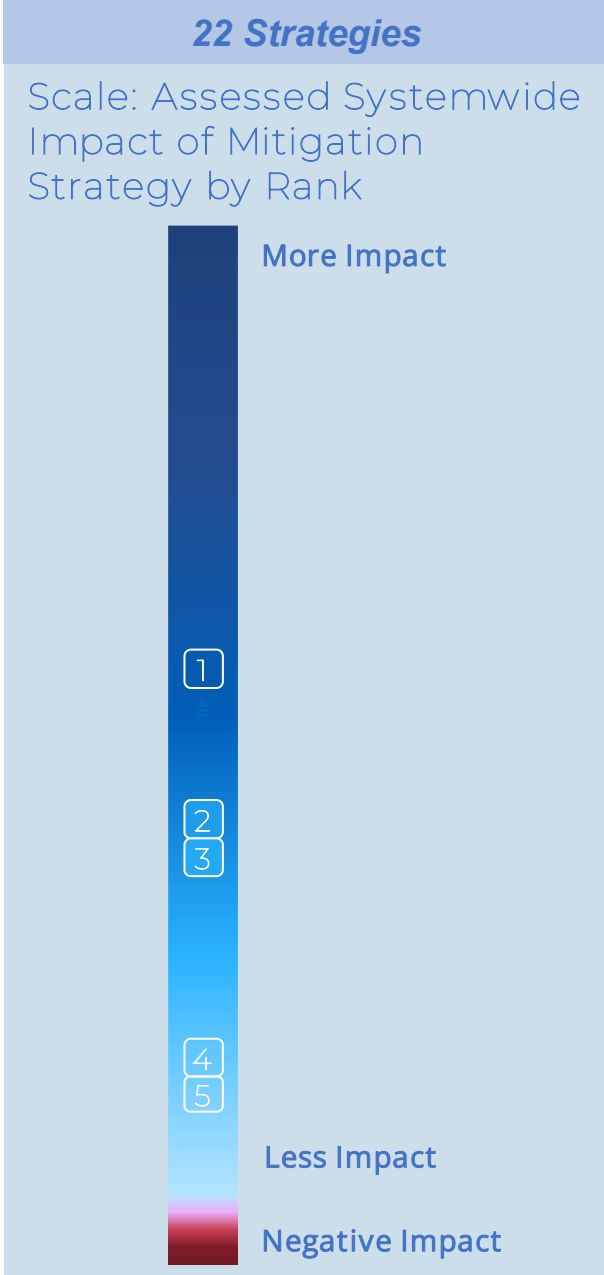
Scale: Assessed Systemwide Impact of Mitigation Strategy by Rank

More Impact

1

2
3

4
5

Less Impact

Negative Impact

FY24 Fall Enrollment: Key Takeaways

Total Enrollment (FTE)
(comparison to prior year)
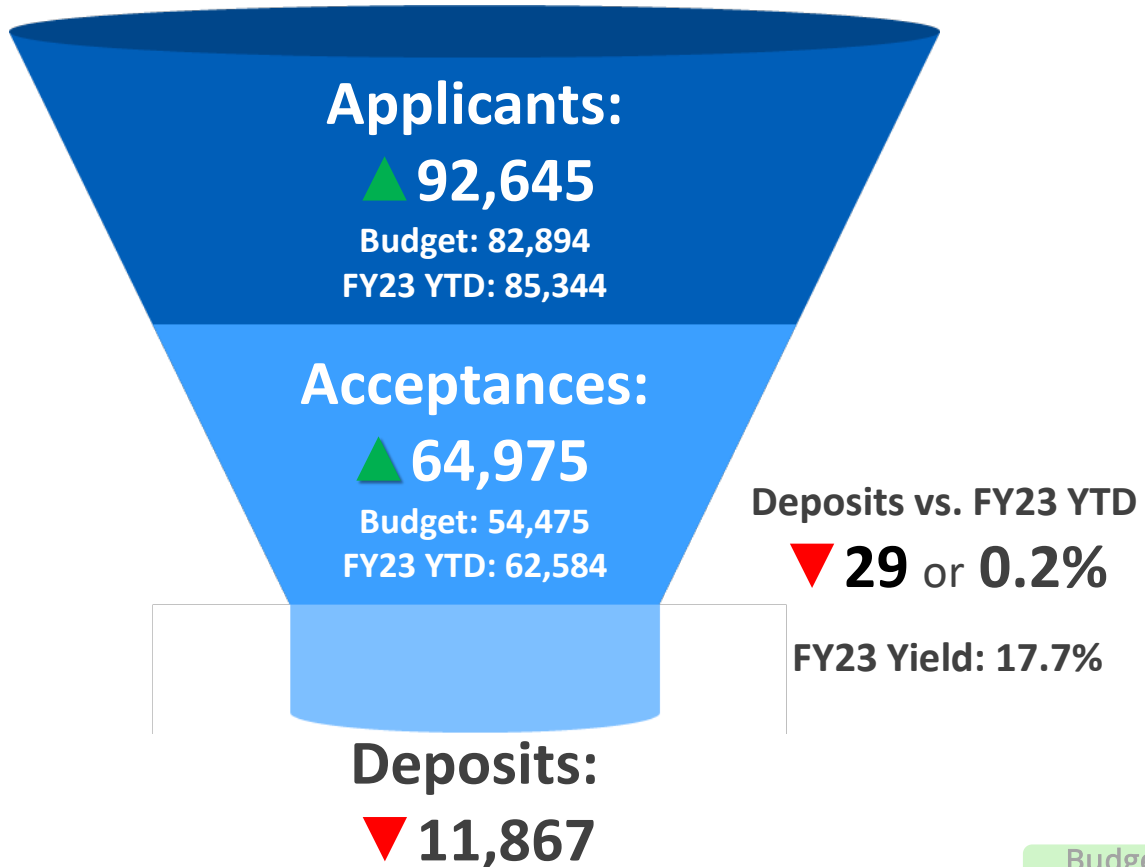
▼ Budget: 64,363; -0.3%
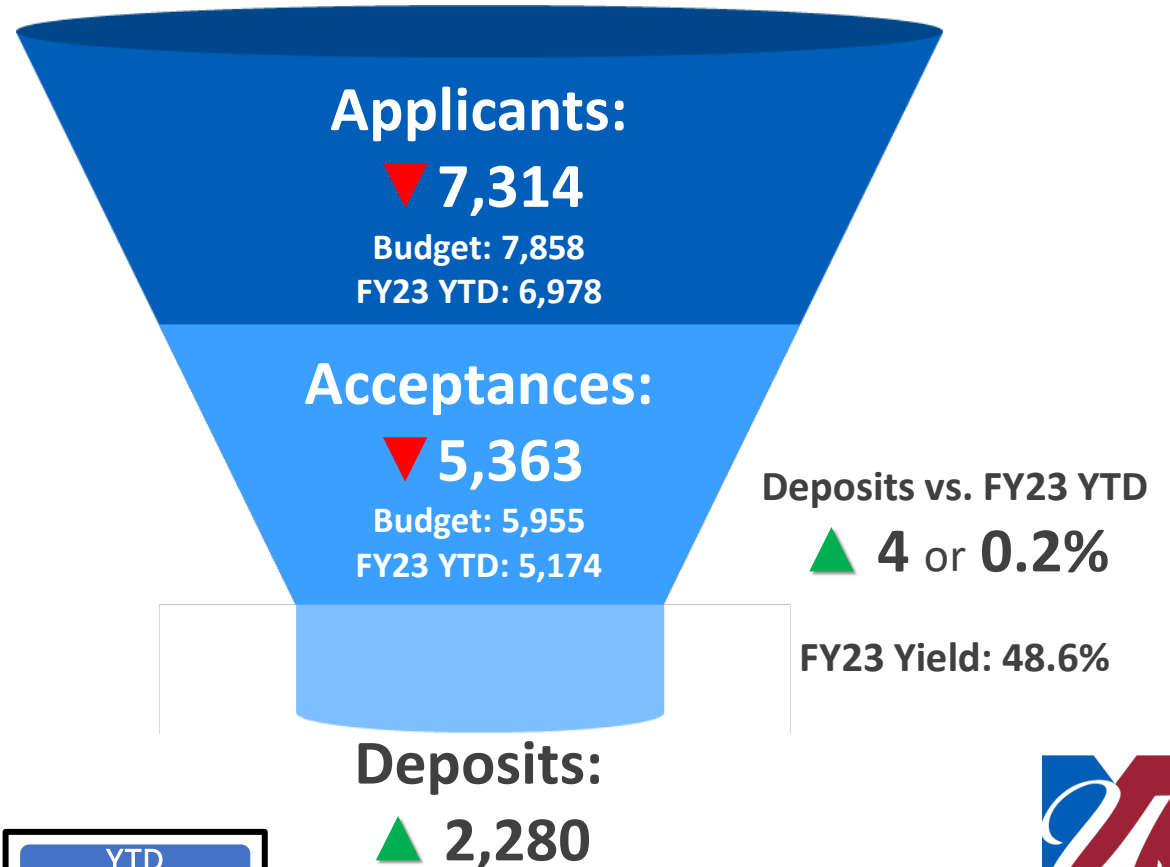
▲ YTD: 64,731; 0.2%

| Budgeted Enrollment | YTD Enrollment |

By Career

▼ Undergraduate
Budget: -491 or -1.0%

YTD: -230 or -0.5%

▲ Graduate
Budget: 226 or 2.0%

YTD: 574 or 5.2%

▲ Continuing Education
Budget: 45 or 0.8%

YTD: 146 or 2.6%

By Residency

▼ In State
Budget: -928 or -2.0%

YTD: -1,037 or -2.2%

▲ Out of State
Budget: 511 or 4.8%

YTD: 369 or 3.4%

▲ International
Budget: 198 or 2.9%

YTD: 818 or 11.9%

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Enrollment: Residency & Demographics in SPARC

Guiding principles:

- Preserved filtering by college and department

- Preserved 'views' of enrollment by credits taken, course enrollments, unique class participants and financial FTE

- Utilized source system data

Data added:

- Residency detail

- Student demographics

- Filtering capabilities

| • In State
• Out of State
• International
• Regional | • Undergrad
• Grad
• Continuing Ed
• Law | • First Time Freshmen
• Transfer
• Continuing | • New England
• NY
• NJ
• PA |

Filters: Campus: All Functional Area: Academic Affairs College: All Department: All

Campus	Functional Area	College / Division	Department	Residency	Academic Career	Student Category	Northeast States
(All)	Academic Affairs	(All)	(All)	(All)	(All)	(All)	(All)

Enrollment: Residency

Description:

Mapping allows for detailed view of residency by Country, State, City/Town; trend data (Fall 2018-2023)

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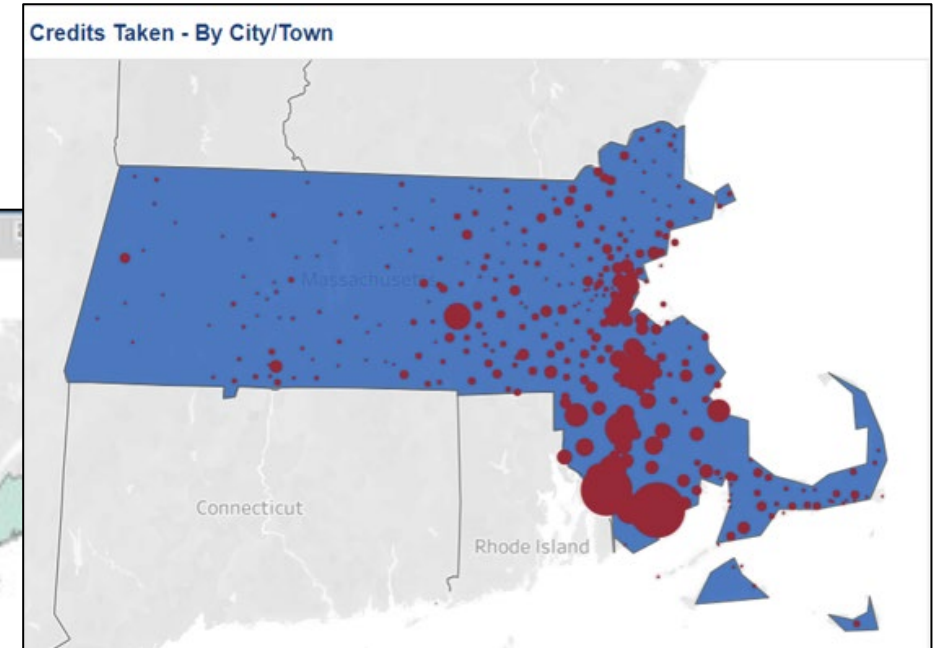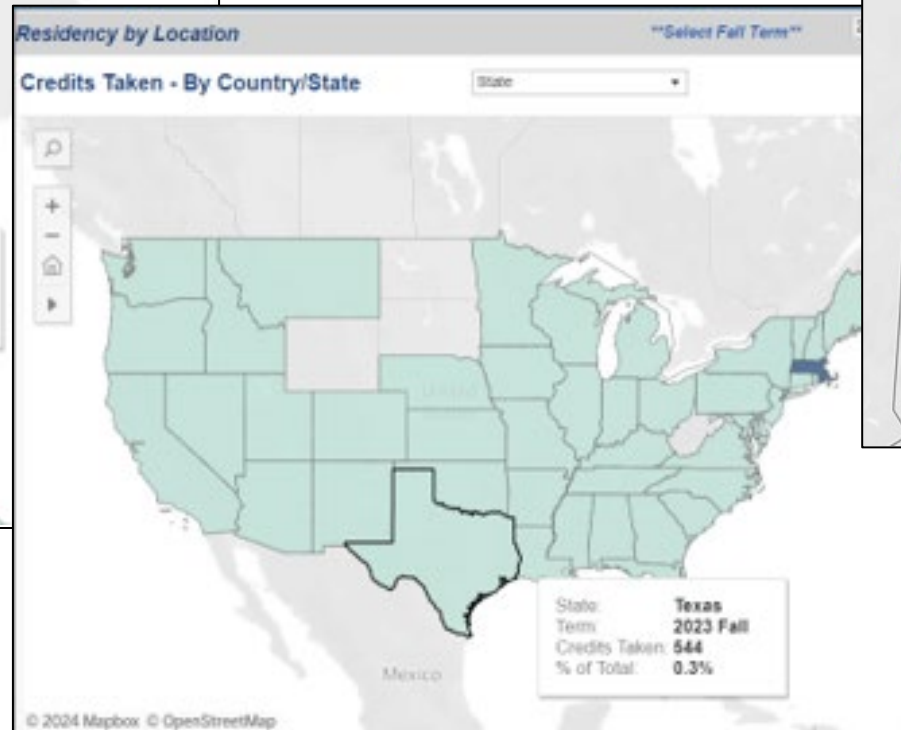
Enrollment: Demographics

Description:
Simple graphics on frequently requested demographic data including Underrepresented Minority, Person of Color, Ethnicity, Gender, Pell Eligibility

Credits Taken - Pell Eligibility

	Y	N
2023 Fall	70,402	109,357
2022 Fall	68,725	105,964
2021 Fall	70,797	105,536
2020 Fall	75,279	109,342
2019 Fall	72,897	106,250
2018 Fall	72,518	105,453

Enrollment

Credits Taken - Academic Level

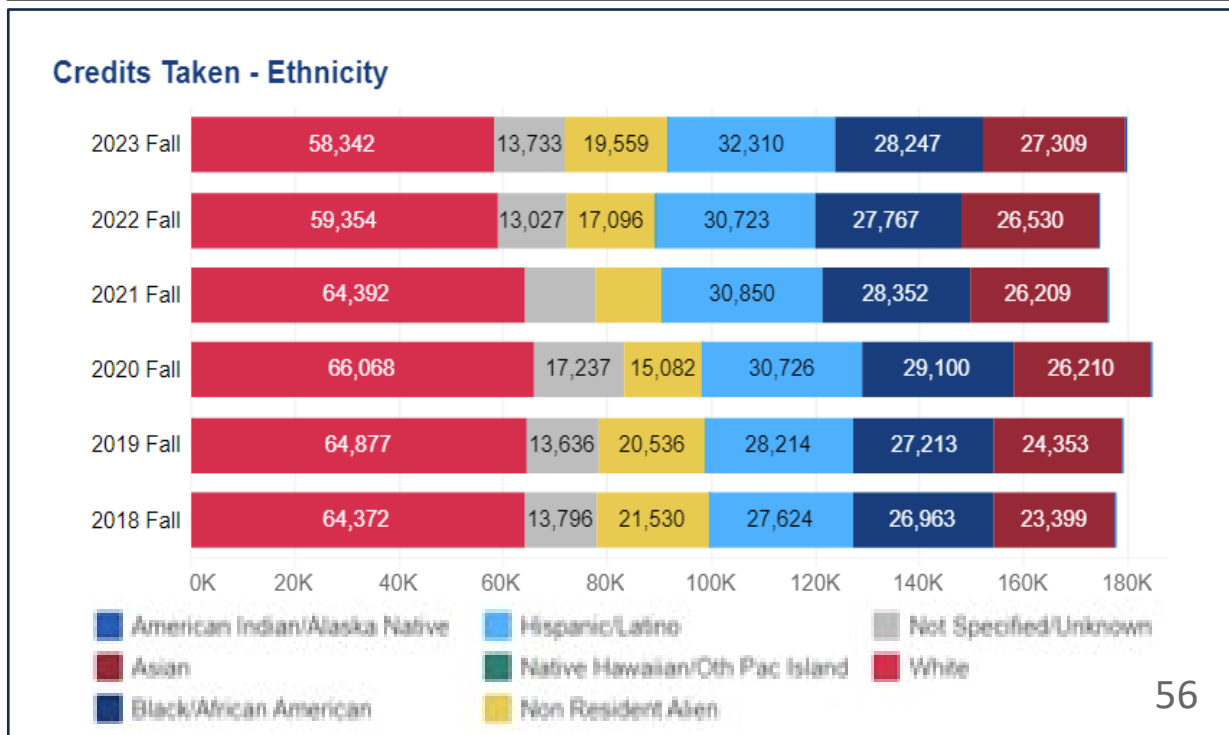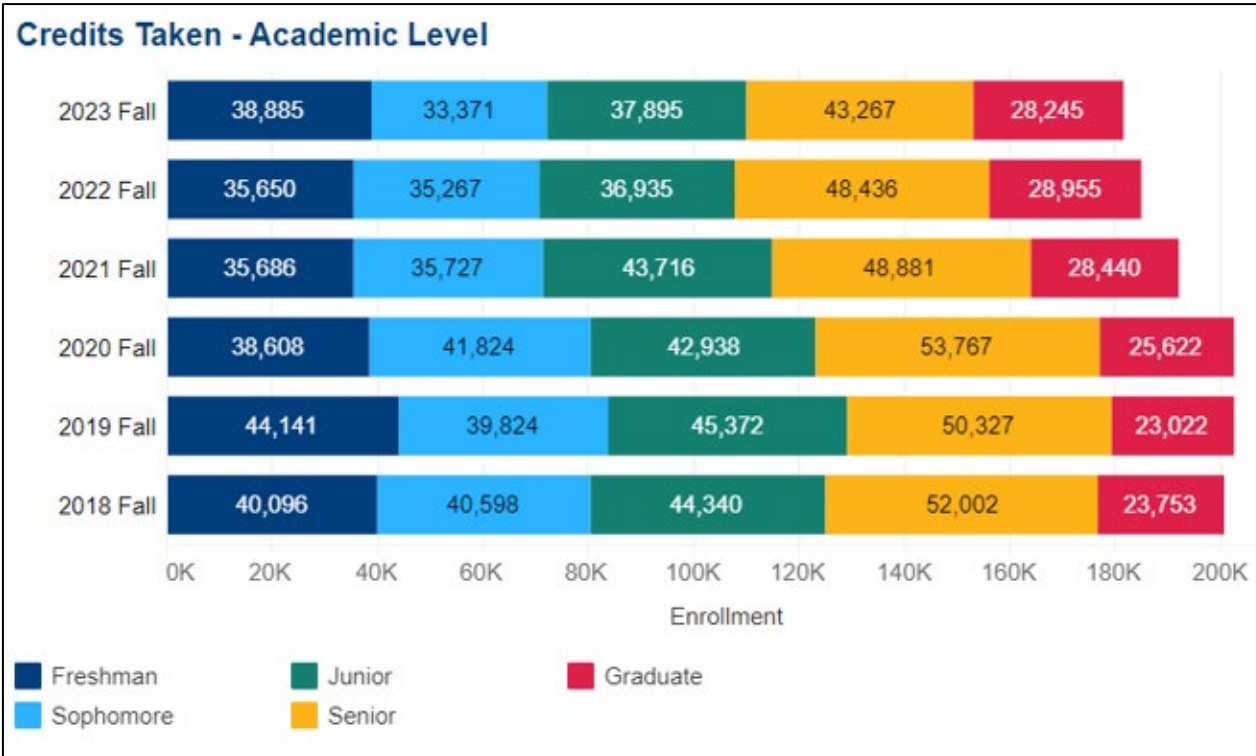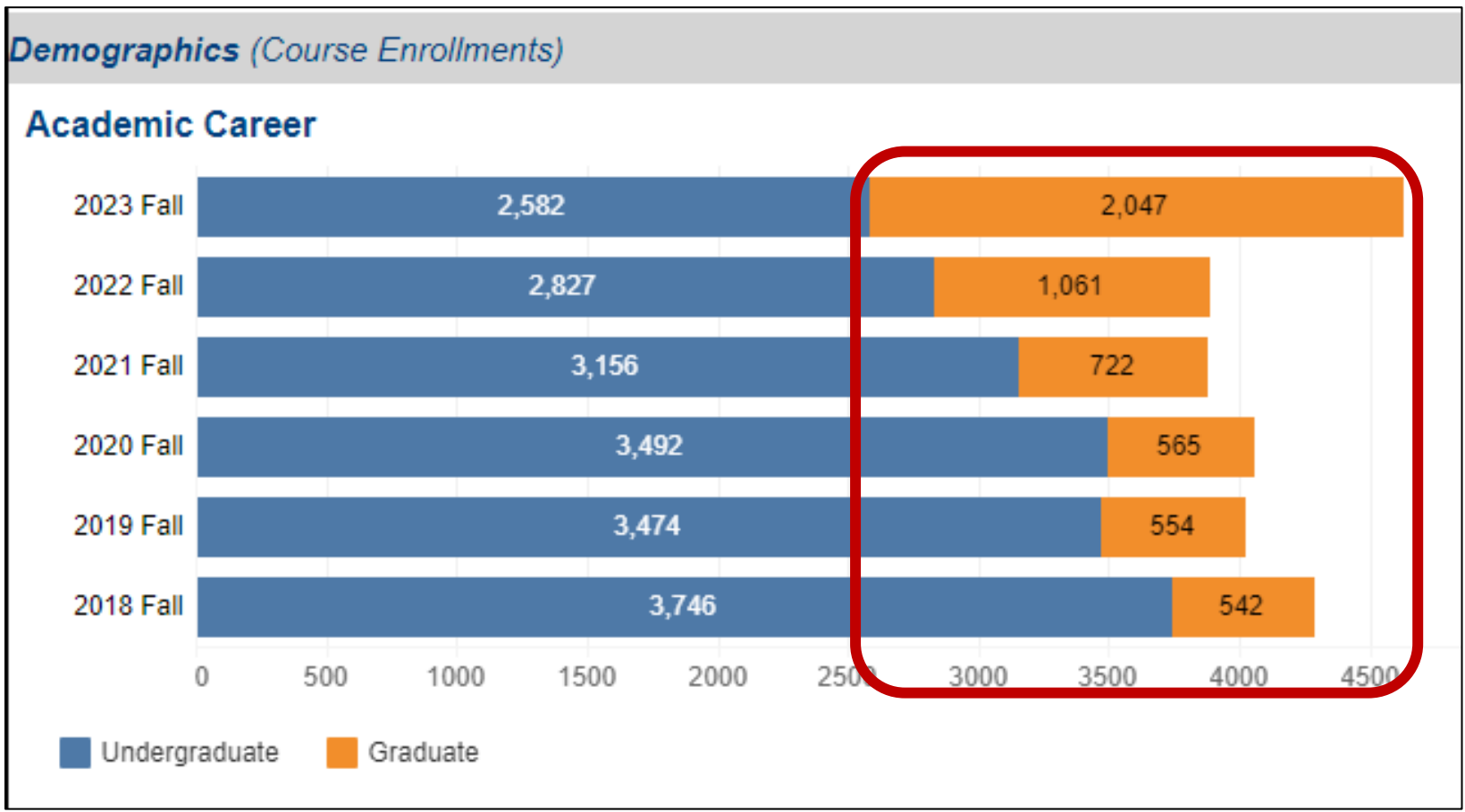|	Freshman	Sophomore	Junior	Senior	Graduate
2023 Fall	38,885	33,371	37,895	43,267	28,245
2022 Fall	35,650	35,267	36,935	48,436	28,955
2021 Fall	35,686	35,727	43,716	48,881	28,440
2020 Fall	38,608	41,824	42,938	53,767	25,622
2019 Fall	44,141	39,824	45,372	50,327	23,022
2018 Fall	40,096	40,598	44,340	52,002	23,753

Enrollment

Credits Taken - Ethnicity

	White	Not Specified/Unknown	Non Resident Alien	Hispanic/Latino	Black/African American	Asian
2023 Fall	58,342	13,733	19,559	32,310	28,247	27,309
2022 Fall	59,354	13,027	17,096	30,723	27,767	26,530
2021 Fall	64,392			30,850	28,352	26,209
2020 Fall	66,068	17,237	15,082	30,726	29,100	26,210
2019 Fall	64,877	13,636	20,536	28,214	27,213	24,353
2018 Fall	64,372	13,796	21,530	27,624	26,963	23,399

- American Indian/Alaska Native
- Hispanic/Latino
- Not Specified/Unknown
- Asian
- Native Hawaiian/Oth Pac Island
- White
- Black/African American
- Non Resident Alien

Using SPARC to Assess Enrollment Strategies

Demographics (Course Enrollments)

Academic Career

Term	Undergraduate	Graduate
2023 Fall	2,582	2,047
2022 Fall	2,827	1,061
2021 Fall	3,156	722
2020 Fall	3,492	565
2019 Fall	3,474	554
2018 Fall	3,746	542

Strategy:
Improve Graduate Enrollment in the College of Engineering

Findings:
Fall 2023 (YTD as of 8/23/23) enrollments shows positive results compared to prior full year data (Fall 2018 – Fall 2022)

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Using SPARC to Assess Enrollment Strategies: Credits & Net Revenue

FY2023	Credits Taken	Gross Revenue	Total Financial Aid	Total Financial Aid %	Net Revenue
Grand Total	6,339	7,514	(1,961)	26%	5,553

FY2022	Credits Taken	Gross Revenue	Total Financial Aid	Total Financial Aid %	Net Revenue
Grand Total	3,745	4,302	(1,646)	38%	2,655

Findings:

- **109%** growth in Net Revenue
- **69%** growth in Credits Taken

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Using SPARC to Assess Enrollment Strategies: University Support

Findings:
- Revenue growth is outpacing expense growth
- University support is declining
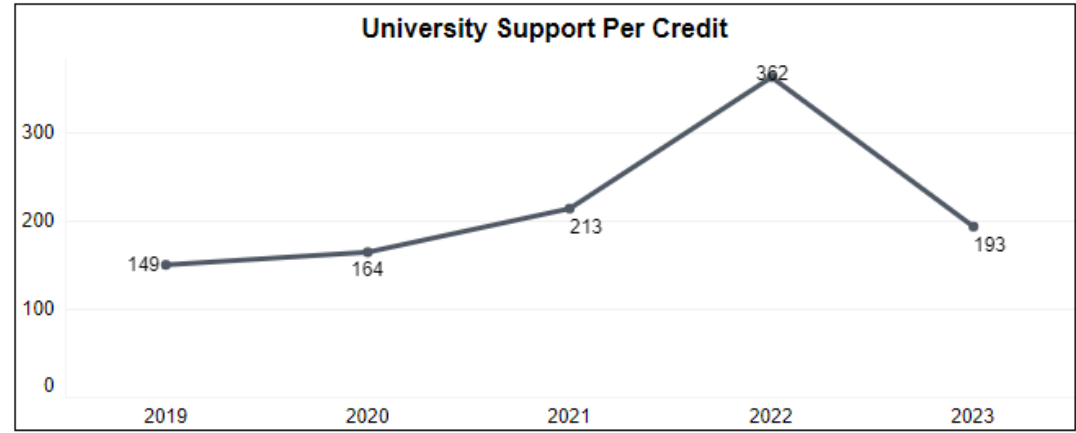
Using SPARC to Assess Enrollment Strategies: Staffing

FY2023

	Allocated FTE	Internal Funds	External Funds	Total Funds
Faculty	64	7,834	1,162	8,996
Student		655	1,260	1,915
Secretarial/Clerical	8	1,020	366	1,386
Professional Nonfaculty	13	1,133	174	1,307
Executive/Admin/Managerial	2	315	8	323
Technical/Paraprofessional	2	2	187	189
Service Maintenance Workers		1		1
Grand Total	89	10,961	3,156	14,116

FY2022

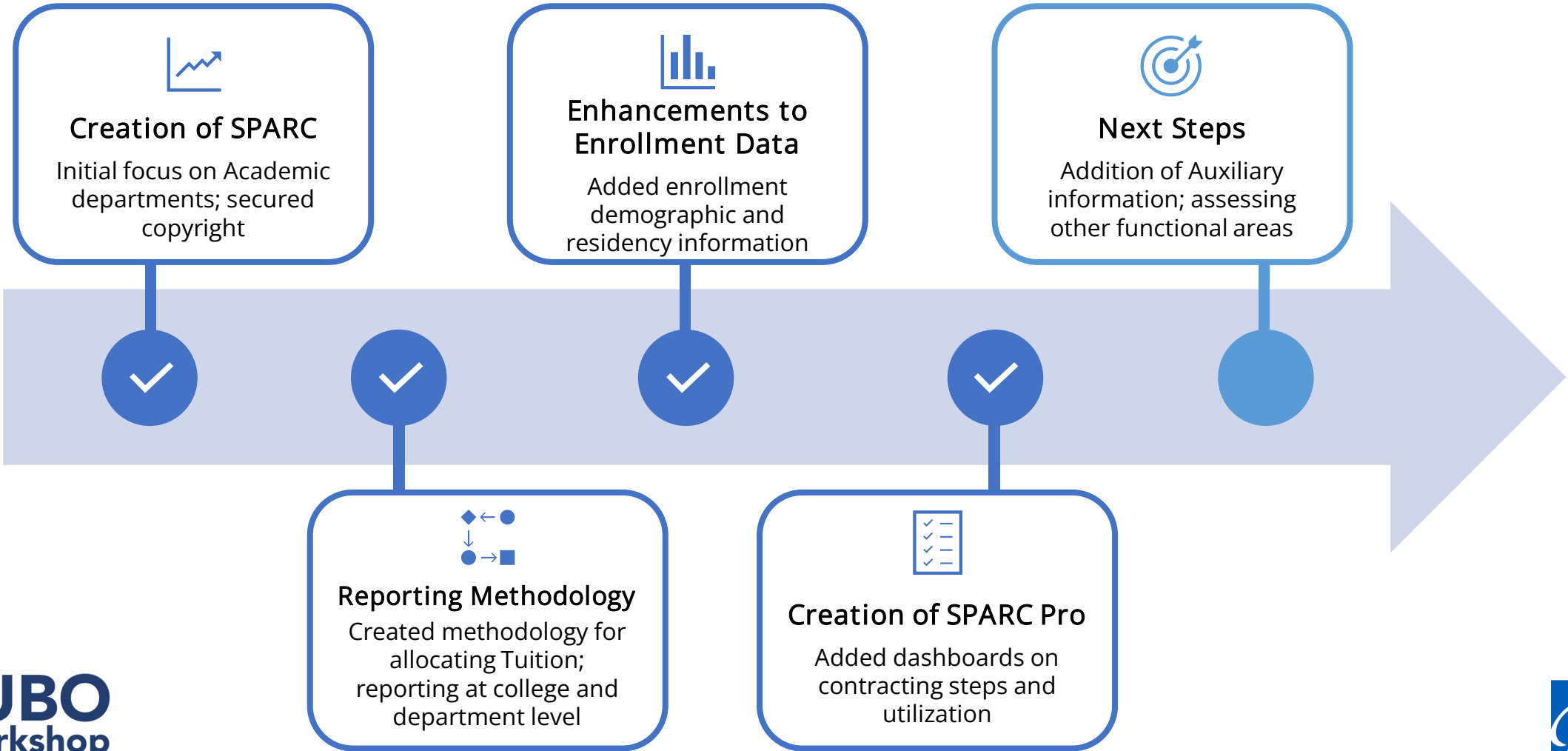|	Allocated FTE	Internal Funds	External Funds	Total Funds
Faculty	64	8,734	951	9,686
Student		702	829	1,531
Professional Nonfaculty	13	1,112	193	1,305
Secretarial/Clerical	9	952	307	1,258
Executive/Admin/Managerial	1	323	10	332
Technical/Paraprofessional	2		196	196
Service Maintenance Workers		1		1
Grand Total	90	11,825	2,485	14,310

Findings:

- Existing resources support enrollment growth:
  - Total FTEs decreased by **1.1%**; faculty remained flat
  - Total payroll decreased by **1.4%**

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SPARC: Progress to Date

Creation of SPARC
Initial focus on Academic departments; secured copyright

Enhancements to Enrollment Data
Added enrollment demographic and residency information

Next Steps
Addition of Auxiliary information; assessing other functional areas

Reporting Methodology
Created methodology for allocating Tuition; reporting at college and department level

Creation of SPARC Pro
Added dashboards on contracting steps and utilization

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Key Takeaways

- **Data is powerful:** it improves analysis and allows for proactive planning

- **Getting at the "right" data can be hard:** start somewhere, create versions, don't stop pushing through the weeds

- **ERM cannot stand alone:** it must be intertwined in all planning (budget, forecasting, capital, etc.) and use data to assess effectiveness

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THANK **YOU**
ANY QUESTIONS?

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FOR ATTENDING

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