

# Measuring the Effectiveness of Risk Mitigation Strategies



University of Massachusetts  
Amherst • Boston • Dartmouth • Lowell • Medical School • UMassOnline



# Agenda

*Please note: throughout presentation, all underlined text indicates there is a link to additional or source information*

- UMASS System Overview
- UMASS Systemwide ERM Program Overview
- UMASS ERM Risk Assessment Process and Systemwide Risk Registry
- Moving Beyond Risk Assessment
  - MATRX Overview
  - Mitigation Assessment Values and Calculations
  - Results
  - Demo
  - Stakeholder Engagement
  - Results from Pilot
- Conclusion and Take Aways
- Questions

# Overview of the University of Massachusetts System

# UMASS System Overview

## Five undergraduate & graduate campuses

- Medical School
- Law School
- 75,000 students
- 18,000 new graduates annually

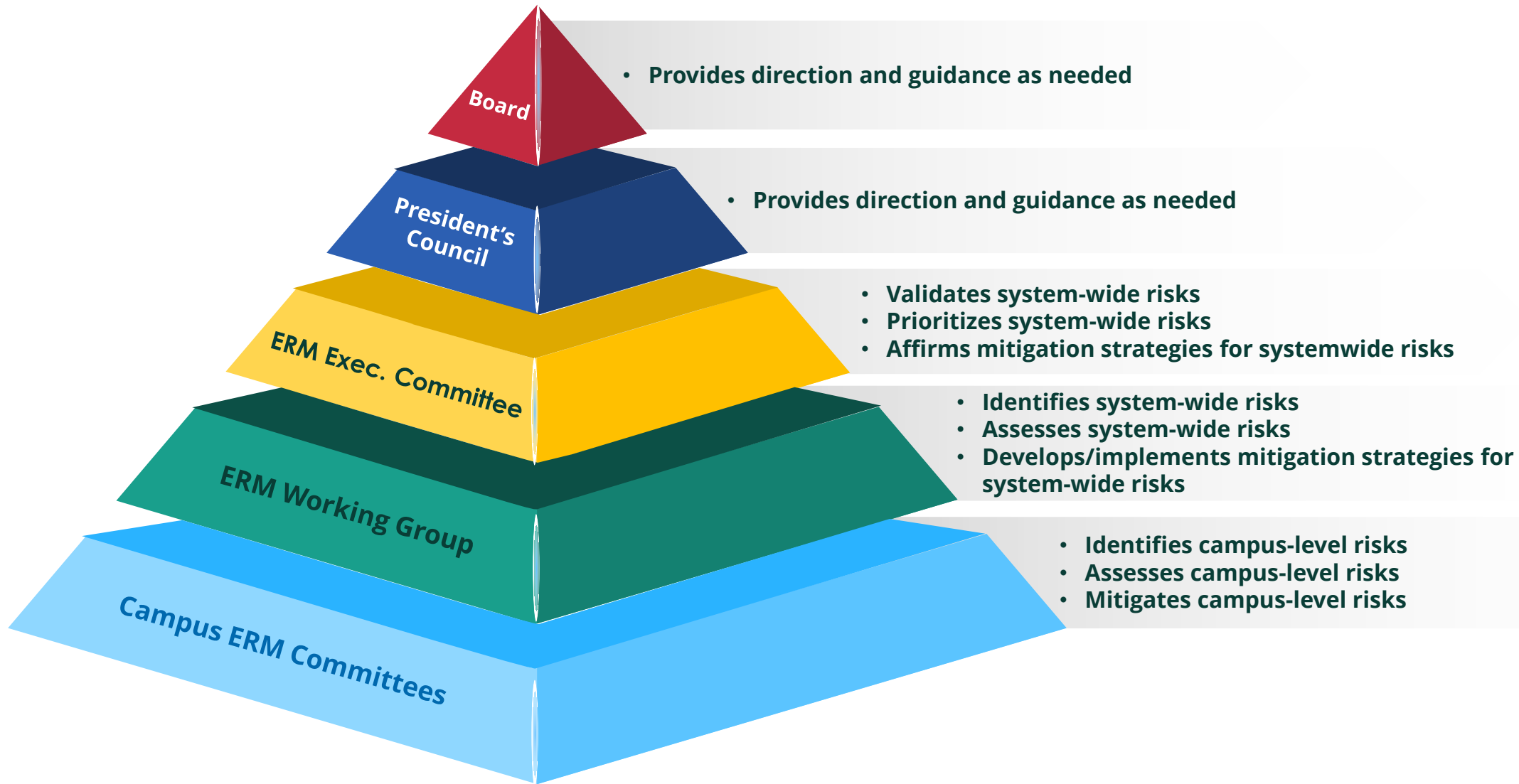
- Third-largest research university in Massachusetts (\$813M)
- Fourth-largest research university in New England

- Annual budget of \$3.8B
- Responsible for \$7.5 B in overall economic impact across Massachusetts

**Third largest employer in Massachusetts with more than 24,000 employees**

# Systemwide Enterprise Risk Management Program

# ERM Governance Structure



# Systemwide ERM Program Cycle

- Proactively identify risks ***across the University***
- Assess the potential *systemwide* impact of risks
- Prioritize risks across the University
- Document and assess mitigation strategies
- Monitor risks and risk mitigation actions
- Regularly report updates on program

Two-Year ERM Program Cycle



# How the Systemwide ERM Program Functions at UMass



- Identify and assess risks with systemwide implications
- Support informed decision-making
  - Transparency of information/activity
  - Normalized review/prioritization of risk
- Facilitate systemwide coordination on risk identification and assessment
- Assist in identifying risk owners
- Facilitate coordination of mitigation activities for crisis response
- Facilitate the assessment of effectiveness of mitigation activities on risk



- Own risk
- Own risk mitigation strategies
- Implement risk mitigation strategies
- Own compliance review or monitoring
- Own campus ERM programs or plans



# Risk Assessment Process and Systemwide Risk Registry

# Risk Assessment Process

- Focused on systemwide impacts
- Evaluates ***inherent*** exposure of the University to the risk
  - Does ***not*** account for mitigation strategies
  - Generates an Inherent Risk Score for each risk
- Rates risks across three factors
  - Values are assigned to each rating
    - Likelihood: Could the University system experience this risk?
    - Consequence: How much would the University system be impacted by this risk?
      - Service/Operations Disruption
      - Financial
      - Legal/Compliance
      - Workforce
      - Reputation
      - Life Safety
    - Urgency: How soon does the University system need to prioritize this risk?

# Risk Assessment – Likelihood Factor

What is the likelihood the University system could experience this risk?

Assessor chooses from the most pertinent column

Rating	Description	OR	Probability of Occurrence	OR	Rate of Occurrence
<b>4</b> Certain or Almost Certain	HIGH - Almost certain to occur, expected in most circumstances	OR	>75%	OR	more than 2x per year
<b>3</b> Likely	MEDIUM HIGH - Likely to occur or will probably occur		50 to 75%		1-2x per year
<b>2</b> Possible	MEDIUM - Possible, this could occur		25 to 50%		once every 2-5 years
<b>1</b> Unlikely	LOW - Unlikely, not expected to occur		Up to 25%		more than 5 years

# Risk Assessment Tool – Consequence Factor

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

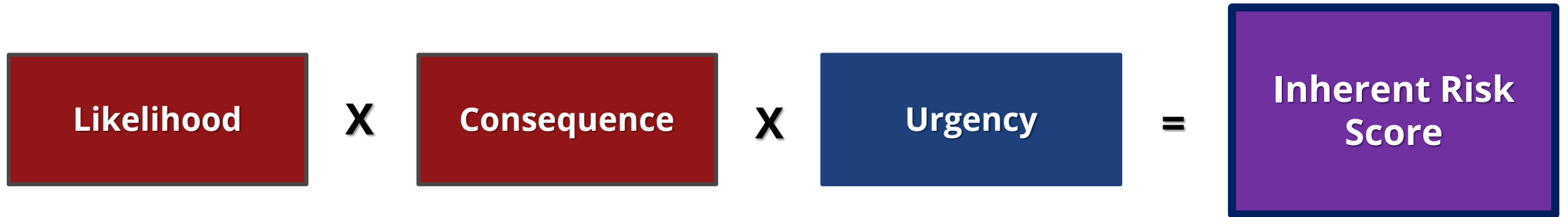
Rating	Service Disruption, Process Impact on Operations	Financial Impact	Legal / Compliance	Workforce	Reputation	Life Safety	Rating
4 High	Serious disruption to or failure of service <i>AND/OR</i> Significant impacts to more than two campus	State appropriation reduction of more than 15 percent <i>AND/OR</i> Loss of revenue or increase in expenses of greater than 15 percent or combination of both <i>AND/OR</i> Need to use stabilization fund <i>AND/OR</i> Impacts to all campuses	Increased state or federal regulatory scrutiny for additional campus(es) <i>AND/OR</i> External agency sanctions such as debarment or civil and/or criminal liability <i>AND/OR</i> Litigation exposure with significant financial (\$10M+), reputational or precedent exposure <i>AND/OR</i> Substantial audit findings	Inability to recruit or retain employees with essential knowledge, skills and abilities <i>AND/OR</i> Work culture is defined by excessive internal conflict or widespread negativity <i>AND/OR</i> Inability to collaborate across the system or limited information sharing and cooperation <i>AND/OR</i> Low level of trust among colleagues	Negative national media coverage or negative social media activity ("viral") for multiple days <i>AND/OR</i> Tangible, long-term impacts to enrollment (more than one cycle), philanthropy and public support <i>AND/OR</i> Significant personnel actions <i>AND/OR</i> Widespread internal reaction	Fatality or permanent disability of one or more people	4 High
3 Medium	Moderate disruption to service <i>AND/OR</i> Significant impact to one campus	State appropriation reduction of 10-15 percent <i>AND/OR</i> Loss of revenue or cost increase of 5-10 percent, or combination of both (est. \$175M - \$350M) <i>AND/OR</i> Impacts to BDL or UMA or UMMS	Restrictions or requirements placed on the University's operational activities <i>AND/OR</i> Substantial (\$1M+) regulatory fines and/or response costs <i>AND/OR</i> Moderate audit findings <i>AND/OR</i> Litigation with substantial financial (\$1M - \$10M), reputational or precedent exposure	Difficulty recruiting or retaining employees with essential knowledge, skills and abilities <i>AND/OR</i> Work culture experiences frequent internal conflict or significant <i>AND/OR</i> Significant obstacles to system-wide collaboration <i>AND/OR</i> Decreased information sharing in many circumstances	Negative regional (northeast) media coverage or some negative social media activity <i>AND/OR</i> Tangible, short-term impacts to enrollment (one cycle), philanthropy and public support <i>AND/OR</i> Significant internal reaction	Serious injury of one or more people	3 Medium
2 Low	Minor impact on service <i>AND/OR</i> Some impact to more than one campus	Between \$5M and 1 - 5 percent revenue loss or expense increase or combination of both (est. \$5M to \$175M impact) <i>AND/OR</i> Impacts to up to two campuses	Regulatory fines (less than \$1M) <i>AND/OR</i> Minor audit findings <i>AND/OR</i> Litigation with financial (less than \$1M), reputational or precedent exposure <i>AND/OR</i> Internally-imposed consequences or requirement for formal corrective action	Minor impact to recruitment or retention <i>AND/OR</i> Work culture experiences some internal conflict or negativity <i>AND/OR</i> Challenges with system-wide collaboration <i>AND/OR</i> Decreased information sharing and cooperation in limited circumstances	Negative local media coverage or minimal social media activity <i>AND/OR</i> Moderate on-campus/internal reaction	Minor injury to more than one person	2 Low
1 Negligible	Annoyance	Less than \$5M impact	No to minimal impact	No to minimal impact to recruitment or retention <i>AND/OR</i> No to minimal impact to workplace culture <i>AND/OR</i> No to minimal impact to system-wide collaboration or information sharing	No to minor internal reaction	No impact or minor injury to individual	1 Negligible
Rating	3	3	3	3	3	3	Total Consequence Rating <b>18</b>

# Risk Assessment Tool – Urgency Factor

How soon do we need to prioritize this risk?

Level		Timeframe
3	High	Within the next 12 months
2	Moderate	1-3 years
1	Low	More than 3 years

# Inherent Risk Score Calculation

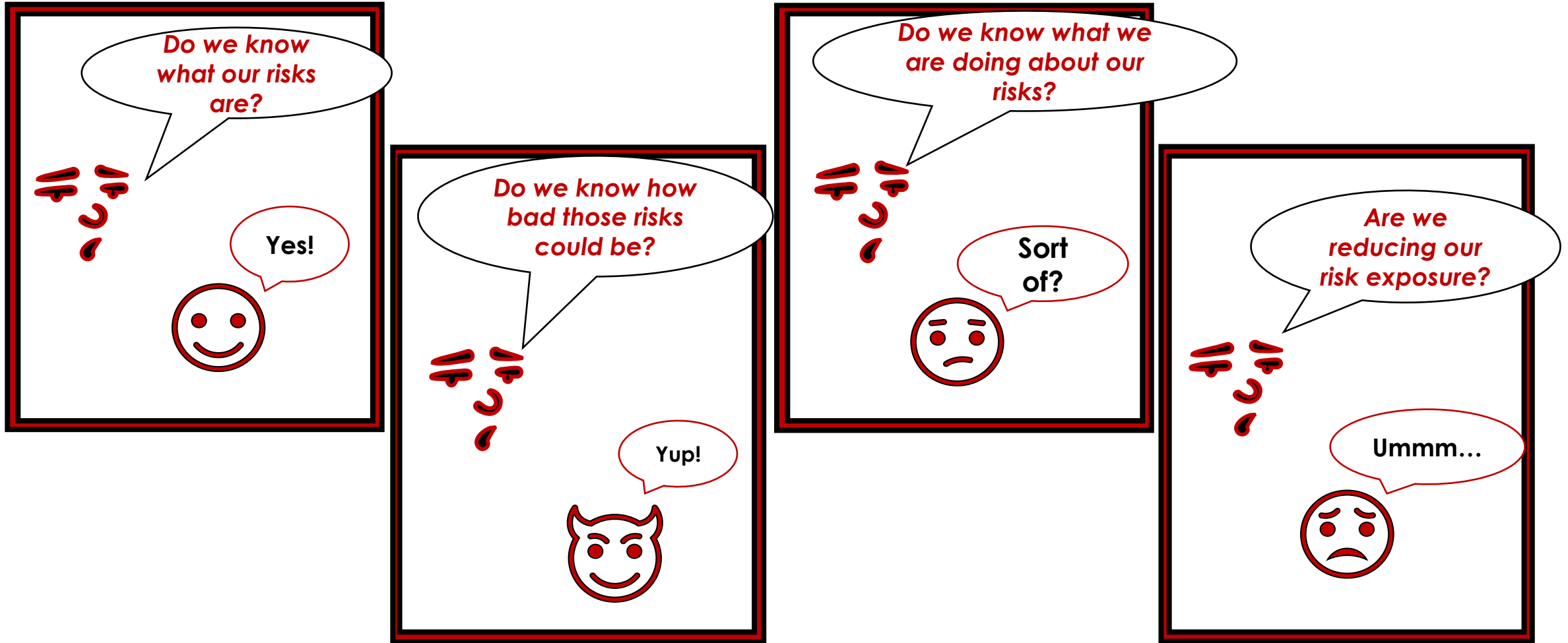


- Assessed by ERM Working Group
- Assessed by ERM Executive Committee

# FY2022 Systemwide Risk Registry

Rank	Risk	Rank	Risk	Rank	Risk
1	Enrollment	11	All Hazards Planning & Response Capabilities	21	Alcohol and Substance Abuse
2	Information Security	12	Multi-State Payroll Tax	22	Crisis Communications
3	Financial Sustainability	13	Labor Relations	23	Immigration Rules and Regulations
4	Facilities and Deferred Maintenance	14	Data Management	24	Fraud, Waste, and Abuse
5	Student Health & Mental Health Support	15	Research	25	Uninsured Loss
6	Vendor Risk Management	16	Multi-State Business Tax	26	Employment Laws and Regulations
7	Attract, Recruit, Retain Faculty and Staff	17	Sexual Assault Policies & Response Procedures	27	NCAA Regulations
8	International Activities	18	IT Disaster Recovery	28	Policies and Procedures Regarding Minors on Campus
9	Information Privacy	19	Continuity Planning	29	Academic Quality and Standards
10	Diversity, Equity, Inclusion and Accessibility	20	Environmental Health, Public Health, & Safety Regulations	30	Oversight of Student Organizations

# Reality Sets In





# Moving Beyond Risk Assessment

# Goals

- Document risk mitigation strategies for transparency and enhance our common operating picture
- Demonstrate progress – or lack of progress - in reducing our risk exposure
- Correlate assessment of risk mitigation strategies to a risk's Inherent Risk Score
- Achieve all of this through a single, user-friendly process and tool

# Approach


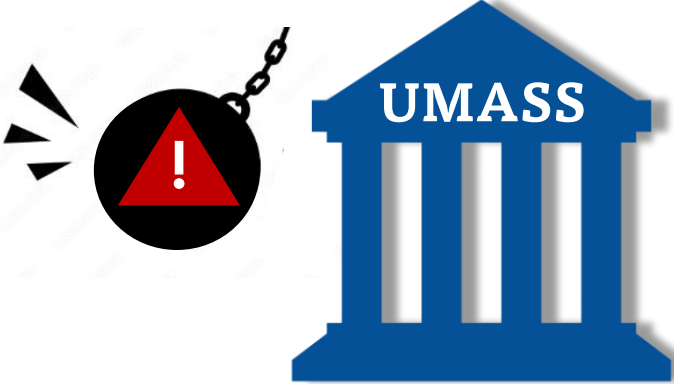

- Research publicly available tools
  - Few available
  - Existing tools involved two processes to assess the impact of mitigation on a risk
    - Stand alone process to evaluate risk mitigation strategy
    - Separate re-evaluation of risk against the mitigation strategy
- Sought to develop our own methodology and tool
  - Engaged with a consultant to provide guidance
  - Developed the tool in-house





# Overview

# Mitigation Assessment Aligns with Risk Assessment

Factor	<b>Risk Assessment Process</b> <i>Evaluates impact of risk on the University</i>	<b>Risk Mitigation Assessment Process</b> <i>Evaluates impact of mitigation on risk exposure</i>
		
<b>Consequence</b>	Assesses impact a risk has on the University system across six risk exposure categories	Assesses how much the mitigation strategy reduces exposure across six categories of impact
<b>Likelihood</b>	Assesses the likelihood of the risk impacting the University system	Assesses whether the mitigation strategy influences the likelihood of the risk impacting the University
<b>Urgency</b>	Identifies how soon the University needs to prioritize the risk	

# Methodology

## 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

# MATRX Follows a Three-Step Process



- 1** Capture Mitigation Strategy Data
- 2** Assess Impact of Mitigation Strategy on Risk's Consequence
- 3** Assess Impact of Mitigation Strategy on Risk's Likelihood

# Step 1: Capturing Mitigation Strategy Data



All Data is provided by mitigation partner(s) conducting the assessment of the mitigation strategy.

Data Point		Description
<b>Title</b>		<ul style="list-style-type: none"> <li>Title of mitigation strategy being documented/assessed</li> </ul>
<b>Description</b>		<ul style="list-style-type: none"> <li>Brief description of mitigation strategy</li> </ul>
For These Data Points, Choose from Dropdown Menu	<b>Type</b>	<ul style="list-style-type: none"> <li>Everyday/operational/regularly occurring activity</li> <li>Project/initiative-based activity(finite timeframe)</li> </ul>
	<b>Status</b>	<ul style="list-style-type: none"> <li>Proposed (not yet approved/funded)</li> <li>Planned (approved/funded, but not yet implemented)</li> <li>Ongoing</li> <li>Complete</li> </ul>
	<b>Implementation Level</b>	<ul style="list-style-type: none"> <li>Fully: Mitigation strategy is fully implemented</li> <li>Partially: Mitigation strategy is not yet implemented at full capacity</li> <li>N/A: Not applicable or not yet implemented</li> </ul>



# Step 1: Capturing Mitigation Strategy Data



*Enlarged Screenshot*

Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level
1	Strategy 1	Description	Operational	Ongoing	Partially
2	Strategy 2	Description	Project-Based	Planned	N/A
3	Strategy 3	Description	Project-Based	Completed	Fully
4	Strategy 4	Description	Project-Based	Proposed	N/A

# Step 2: Assessing Mitigation Strategy's Impact on the Risk's Consequences



## Evaluation

Evaluate the degree of effectiveness the mitigation strategy has on a risk within each risk consequence category:

- Service Disruption/Impact to Operations
- Finance
- Legal/Compliance
- Workforce
- Reputation
- Life Safety

These consequence categories align with the consequence categories used in the risk assessment process.

## Rating Options

What effect does or would the mitigation strategy have on this risk category?

Rating	Description
<b>Significant Effect</b>	Greatly reduces the University's exposure in this risk category
<b>Moderate Effect</b>	Somewhat reduces the University's exposure in this risk category
<b>Little to No Effect</b>	Barely or does not reduce the University's exposure in the risk category
<b>Adverse Effect</b>	Creates additional/increases exposure in the risk category

# Step 2: Assessing Mitigation Strategy's Impact on the Risk's Consequences



Enlarged Screenshot

Consequence Ratings					
Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety
Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Negligible
Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)
Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect
Little to No Effect	Adverse Effect	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect
Moderate Effect	Little to No Effect	Little to No Effect	Significant Effect	Little to No Effect	Little to No Effect
Significant Effect	Little to No Effect	Little to No Effect	Little to No Effect	Moderate Effect	Little to No Effect

Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level
1	Strategy 1	Description	Operational	Ongoing	Partially
2	Strategy 2	Description	Project-Based	Planned	N/A
3	Strategy 3	Description	Project-Based	Completed	Fully
4	Strategy 4	Description	Project-Based	Proposed	N/A

# Step 3: Assessing Mitigation Strategy's Impact on Risk's Likelihood



## Evaluation

Evaluate whether the likelihood of the risk occurring has been impacted as a result of the risk mitigation strategy

## Rating Options

<i>Does or would this mitigation strategy impact the likelihood of this risk occurring?</i>	
Rating	Description
Decreases Likelihood	Mitigation strategy has decreased the likelihood that the risk will occur (made it better)
No Impact on Likelihood	Mitigation strategy has made no impact on the likelihood that the risk will occur (neutral)
Increases Likelihood	Mitigation strategy has increased the likelihood that the risk will occur (made it worse)

# Step 3: Assessing Mitigation Strategy's Impact on the Risk's Likelihood

Enlarged Screenshot

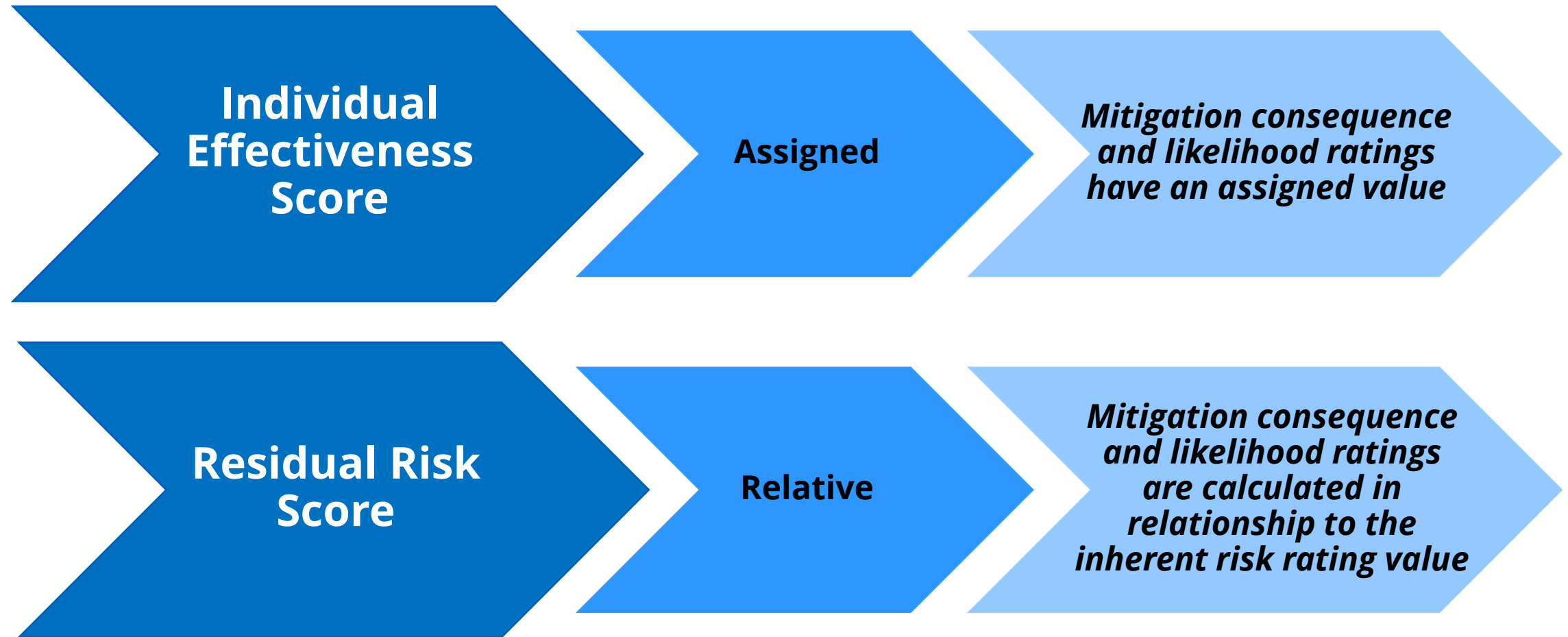


Consequence Ratings						Likelihood Rating
Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety	
Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Negligible	

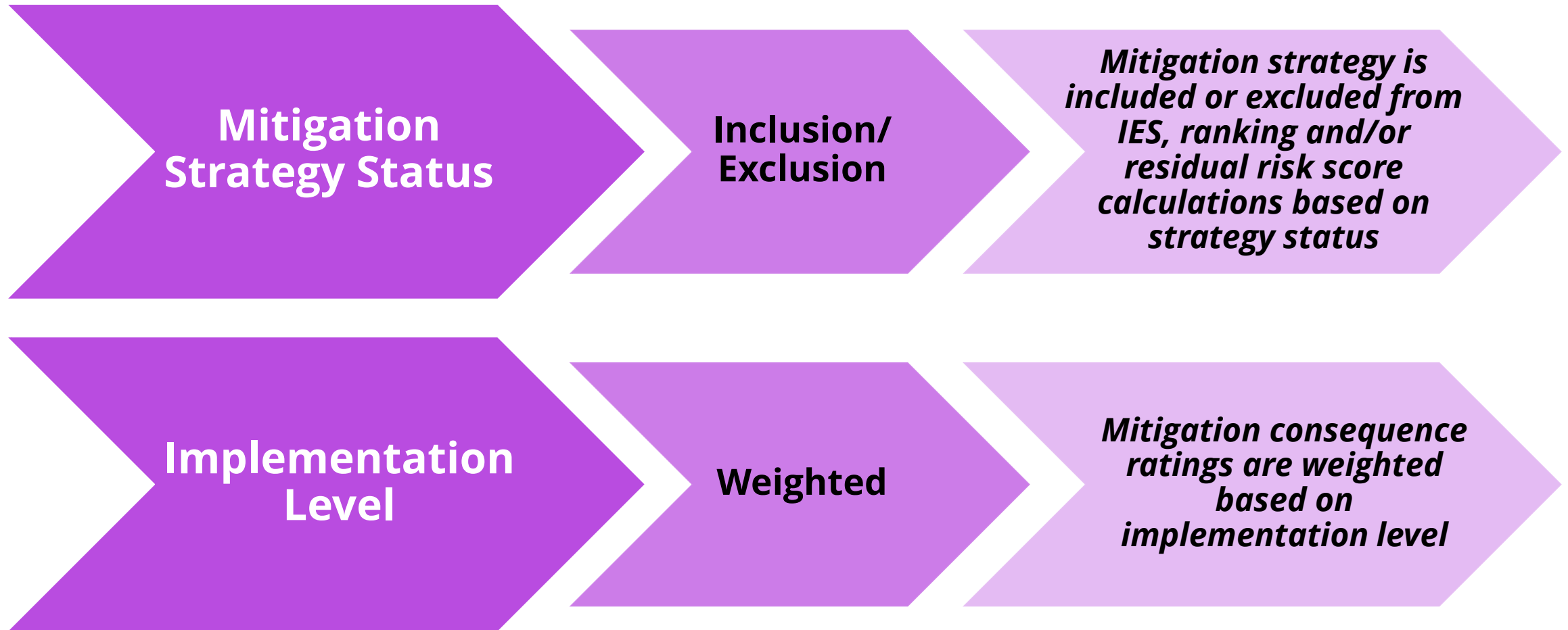
Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Likelihood Rating
1	Strategy 1	Description	Operational	Ongoing	Partially	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect	Decreases
2	Strategy 2	Description	Project-Based	Planned	N/A	Little to No Effect	Adverse Effect	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Increases
3	Strategy 3	Description	Project-Based	Completed	Fully	Moderate Effect	Little to No Effect	Little to No Effect	Significant Effect	Little to No Effect	Little to No Effect	Does Not Change
4	Strategy 4	Description	Project-Based	Proposed	N/A	Significant Effect	Little to No Effect	Little to No Effect	Little to No Effect	Moderate Effect	Little to No Effect	Does Not Change

# Mitigation Assessment Values and Calculations

# Mitigation Assessment Values are Based on Rating and Type of Calculation



# Mitigation Assessment Scoring is Impacted by Mitigation Strategy Status and Implementation Level





# Mitigation Assessment Scoring is Impacted by Mitigation Strategy Status and Implementation Level

## Mitigation Strategy Status

## Implementation Level

Mitigation Strategy Status	Is the Mitigation Strategy Included in the Calculation?		
	Individual Effectiveness Score (IES)	IES Rank	Residual Risk Score
Ongoing	Included	Included	Included
Completed	Included	Included	Included
Planned	Included	Included	Excluded
Proposed	Excluded	Excluded	Excluded

Mitigation Implementation Level	Are the Mitigation Strategy Ratings Weighted?	
	Individual Effectiveness Score	Residual Risk Score
Fully	No	No
Partially	Yes	Yes
N/A	No	No

# Result #1: Individual Effectiveness Score



*The higher the score, the more effective the mitigation strategy*

Consequence Ratings						Likelihood Rating
Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety	
Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Likely

Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Likelihood Rating	Individual Effectiveness Score
1	Strategy 1	Description	Operational	Ongoing	Partially	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect	Decreases	34
2	Strategy 2	Description	Project-Based	Planned	N/A	Little to No Effect	Adverse Effect	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Increases	14
3	Strategy 3	Description	Project-Based	Completed	Fully	Moderate Effect	Little to No Effect	Little to No Effect	Significant Effect	Little to No Effect	Little to No Effect	Does Not Change	30
4	Strategy 4	Description	Project-Based	Proposed	N/A	Significant Effect	Little to No Effect	Little to No Effect	Little to No Effect	Moderate Effect	Little to No Effect	Does Not Change	N/A

# Result #1: Individual Effectiveness Score



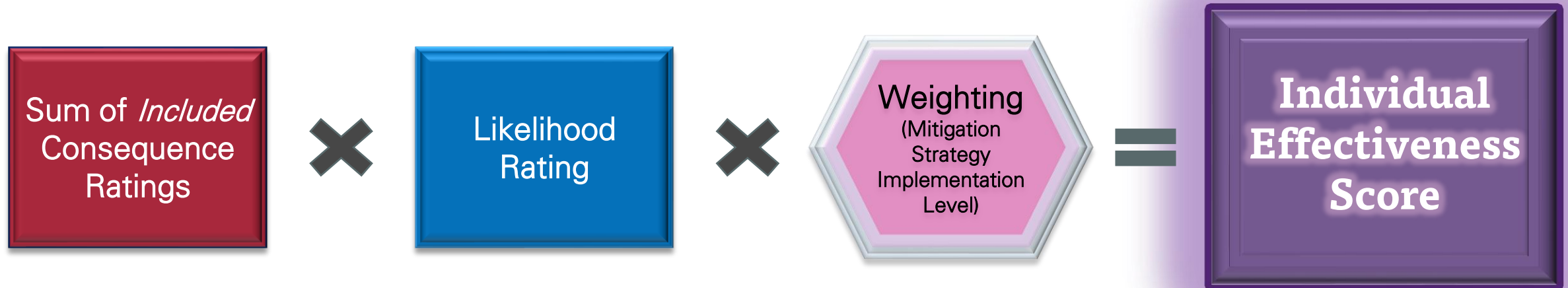
*Values are assigned based on rating*

Consequence Ratings						Likelihood Rating
Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety	
Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Likely

Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Likelihood Rating	Individual Effectiveness Score
1	Strategy 1	Description	Operational	Ongoing	Partially	4	2	3	2	2	2	3	34
2	Strategy 2	Description	Project-Based	Planned	N/A	2	1	4	2	3	2	1	14
3	Strategy 3	Description	Project-Based	Completed	Fully	3	2	2	4	2	2	2	30
4	Strategy 4	Description	Project-Based	Proposed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

# Individual Effectiveness Score Calculation

- The Consequence Rating Values for Individual Effectiveness Score Calculations are a set value that are separate from the ratings from the Inherent Risk Score
- Each of the Consequence and Likelihood Ratings are multiplied by the Implementation Level before being multiplied and rounded to the nearest whole number for the Individual Effectiveness Score



# Result #2A: Mitigation Strategy Rank



Mitigation strategies are ranked based on Individual Effectiveness Score

Consequence Ratings						Likelihood Rating
Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety	
Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Likely

Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Likelihood Rating	Individual Effectiveness Score	Individual Mitigation Strategy Rank
1	Strategy 1	Description	Operational	Ongoing	Partially	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect	Decreases	34	1
2	Strategy 2	Description	Project-Based	Planned	N/A	Little to No Effect	Adverse Effect	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Increases	14	3
3	Strategy 3	Description	Project-Based	Completed	Fully	Moderate Effect	Little to No Effect	Little to No Effect	Significant Effect	Little to No Effect	Little to No Effect	Does Not Change	30	2
4	Strategy 4	Description	Project-Based	Proposed	N/A	Significant Effect	Little to No Effect	Little to No Effect	Little to No Effect	Moderate Effect	Little to No Effect	Does Not Change	N/A	N/A

# Result #2B: Consequence Category Comparison



*Effectiveness of mitigation strategies can be compared within each consequence category*

Consequence Ratings						Likelihood Rating
Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety	
Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Likely

Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Likelihood Rating	Individual Effectiveness Score	Individual Mitigation Strategy Rank
1	Strategy 1	Description	Operational	Ongoing	Partially	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect	Decreases	34	1
2	Strategy 2	Description	Project-Based	Planned	N/A	Little to No Effect	Adverse Effect	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Increases	14	3
3	Strategy 3	Description	Project-Based	Completed	Fully	Moderate Effect	Little to No Effect	Little to No Effect	Significant Effect	Little to No Effect	Little to No Effect	Does Not Change	30	2
4	Strategy 4	Description	Project-Based	Proposed	N/A	Significant Effect	Little to No Effect	Little to No Effect	Little to No Effect	Moderate Effect	Little to No Effect	Does Not Change	N/A	N/A

# Result #3: Residual Risk Score



*The lower the score, the more effective the mitigation strategies are collectively*

		Consequence Ratings						Likelihood Rating				
Service Disruption, Process Impact on Operations	F	<u>Inherent Risk Score</u>			<u>Residual Risk Score</u>							
Inherent Risk Rating: Medium	Inh	90			75			Inherent Risk Rating: Likely				
Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Likelihood Rating
1	Strategy 1	Description	Operational	Ongoing	Partially	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect	Decreases
2	Strategy 2	Description	Project-Based	Planned	N/A	Little to No Effect	Adverse Effect	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Increases
3	Strategy 3	Description	Project-Based	Completed	Fully	Moderate Effect	Little to No Effect	Little to No Effect	Significant Effect	Little to No Effect	Little to No Effect	Does Not Change
4	Strategy 4	Description	Project-Based	Proposed	N/A	Significant Effect	Little to No Effect	Little to No Effect	Little to No Effect	Moderate Effect	Little to No Effect	Does Not Change
						Average	Average	Average	Average	Average	Average	Average

# Result #3: Residual Risk Score



Values are relative to the inherent risk ratings

		Consequence Ratings						Likelihood Rating				
Service Disruption, Process Impact on Operations	F	<u>Inherent Risk Score</u>			<u>Residual Risk Score</u>							
Inherent Risk Rating: Medium	Inh	90			75			Inherent Risk Rating: Likely				
Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Likelihood Rating
1	Strategy 1	Description	Operational	Ongoing	Partially	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect	Decreases
2	Strategy 2	Description	Project-Based	Planned	N/A	Little to No Effect	Adverse Effect	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Increases
3	Strategy 3	Description	Project-Based	Completed	Fully	Moderate Effect	Little to No Effect	Little to No Effect	Significant Effect	Little to No Effect	Little to No Effect	Does Not Change
4	Strategy 4	Description	Project-Based	Proposed	N/A	Significant Effect	Little to No Effect	Little to No Effect	Little to No Effect	Moderate Effect	Little to No Effect	Does Not Change
						Average	Average	Average	Average	Average	Average	Average



# Residual Risk Score Calculation

- The Mitigation values for each consequence rating are relative to the inherent consequence rating
- The inherent Urgency Value is used for the calculation
- Each of the Consequence and Likelihood Rating are multiplied by the Implementation Level



# Screenshot



Risk Data	
Risk Name	Financial Sustainability
Risk Rank	3
Risk Description	Inability to adapt the University's business model to ensure financial sustainability, mitigate risk, and adjust to changing circumstances that influence funding or revenue.
Responsible Department(s)	A&F (UMPO and campuses) Budget Controllers HR

Risk Score Data	
Inherent Risk Score	144
Residual Risk Score	96

Quick Links	
<a href="#">A. Table of Contents</a>	<a href="#">C. Reference - Consequence Assessment</a>
<a href="#">B. Instructions</a>	<a href="#">D. Reference - Likelihood Rating</a>

Risk Mitigation Strategy Assessment Table

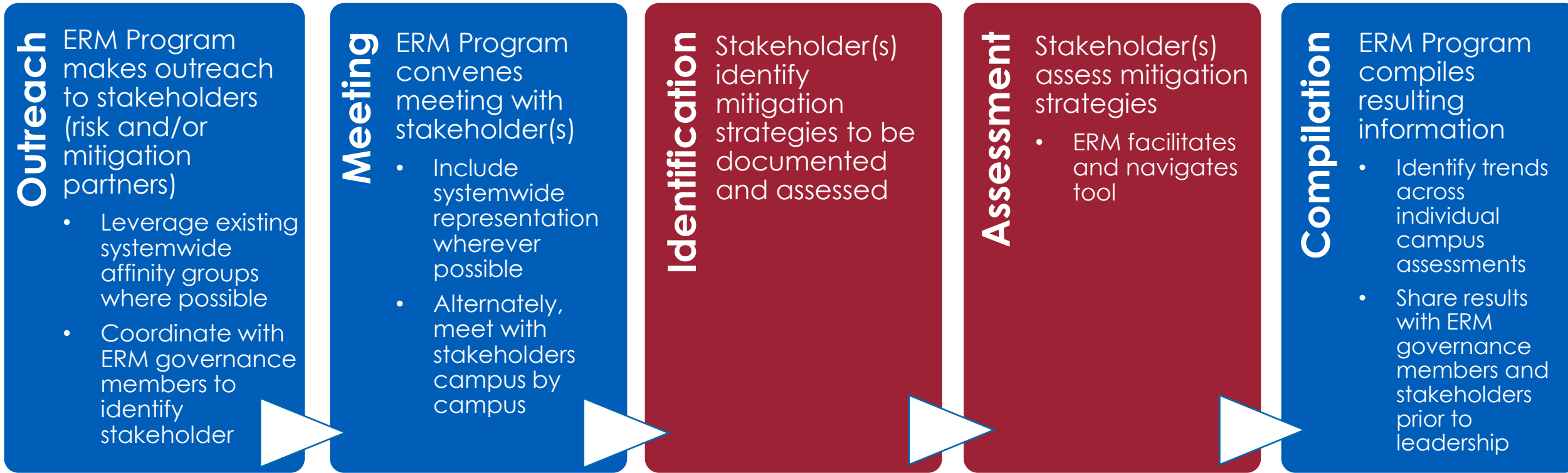
Mitigation Strategy Reference Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level	Consequence Ratings						Individual Effectiveness Score	Individual Mitigation Strategy Rank	
						Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety			Likelihood Rating
						Inherent Risk Rating: Medium	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: High	Inherent Risk Rating: Negligible	Inherent Risk Rating: Likely		
						Mitigation Strategy Rating (select)	Mitigation Strategy Rating (select)	Mitigation Strategy Rating (select)	Mitigation Strategy Rating (select)	Mitigation Strategy Rating (select)	Mitigation Strategy Rating (select)	Mitigation Strategy Likelihood Rating		
11	State Financial Support	Continual advocacy to state Legislature and Administration regarding state appropriation by developing and providing rational budget requests and ensuring fiscal transparency	Project-Based	Ongoing	Fully	Significant Effect	Significant Effect	Little to No Effect	Significant Effect	Moderate Effect	Little to No Effect	Decreased	57	1
13	State Funding of CBA Increases	Monitor and ensure state funding for CBA increases wages/salary	Project-Based	Completed	Fully	Significant Effect	Significant Effect	Little to No Effect	Significant Effect	Moderate Effect	Little to No Effect	Decreased	57	1
7	Reporting - Quarterly Budget Projections and Annual Budget Reporting	Quarterly report assesses budget to actuals and completing projection to year end, and develop strategies to ensure budget stay on plan; annual budget sets plan for upcoming fiscal year to achieve a balanced budget at minimum, and progress toward achieving 2% operating margin by FY25	Operational	Ongoing	Fully	Significant Effect	Significant Effect	Moderate Effect	Little to No Effect	Moderate Effect	Little to No Effect	Decreased	54	3
9	Reporting - Quarterly Capital Reporting and Biennial Capital Plan	Quarterly report assesses capital plan to actuals, reports on any changes and how changes impact overall long-term financial plan; biennial capital plan sets plan for capital investments while preserving a debt service burden of less than 8%	Operational	Ongoing	Fully	Significant Effect	Significant Effect	Moderate Effect	Little to No Effect	Moderate Effect	Little to No Effect	Decreased	54	3
2	Cash Flow Modeling and Projections	Implemented planning tool to show actuals, trends, and historical data on cash flow.	Operational	Ongoing	Fully	Significant Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect	Little to No Effect	Decreased	45	5

What effect does or would this risk mitigation strategy have on reducing the University system's exposure to actual or potential service disruptions, impacts associated with service disruptions, and/or impacts to operations?

# Demo of MATRX

# Stakeholder Engagement

# Mitigation Assessment - Stakeholder Engagement Process



ERM

Stakeholders



# Sample Results from Pilot



# Financial Sustainability

## Preliminary Individual and Comparative Mitigation Strategy Assessment

<b># Strategies</b>	20
<b>Risk Mitigation Partners</b>	<ul style="list-style-type: none"> <li>• UMPO A&amp;F Team</li> <li>• Campus Budget Directors</li> <li>• Campus Controllers</li> </ul>

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

### Individual Mitigation Effectiveness Scale





## Facilities & Deferred Maintenance

# Preliminary Individual and Comparative Mitigation Strategy Assessment

<b># Strategies</b>	7
<b>Risk Mitigation Partners</b>	Facilities and Deferred Maintenance Working Group (EE)

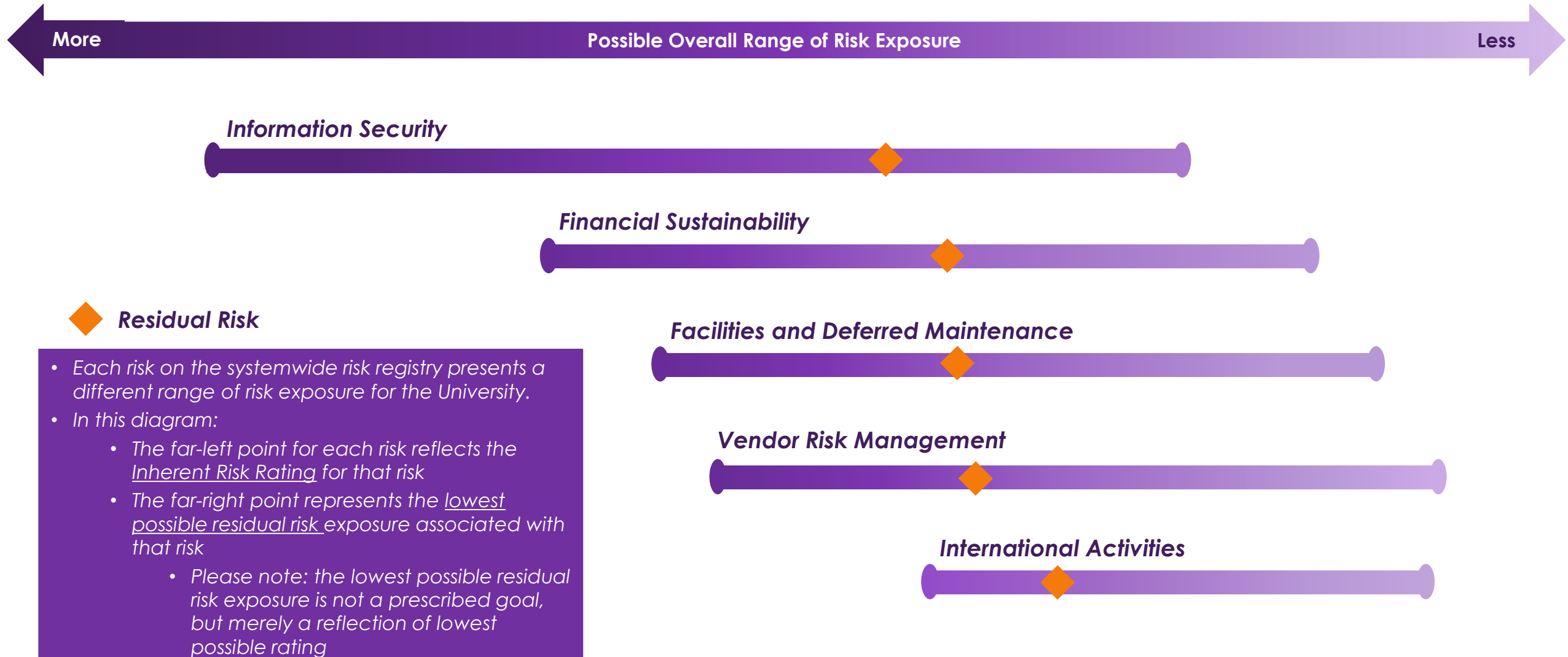
### Individual Mitigation Effectiveness Scale



Rank	Mitigation Title	Implementation Status
1	Reaching/Maintaining Keep Up Targets	Partially
	Reaching/Maintaining Catch Up Targets	Partially
2	Reporting - Biannual Capital Plan	Fully
	Reporting - Quarterly Capital including Catch Up and Keep Up	Fully
	Annual Update of Campus Deferred Maintenance (Gordian)	Fully
	Capital Policy & Standards	Fully
3	Tracking Spending Against DCAMM Contracts	Fully



# Movement in Reducing Risk Exposure



## ◆ Residual Risk

- Each risk on the systemwide risk registry presents a different range of risk exposure for the University.
- In this diagram:
  - The far-left point for each risk reflects the Inherent Risk Rating for that risk
  - The far-right point represents the lowest possible residual risk exposure associated with that risk
    - Please note: the lowest possible residual risk exposure is not a prescribed goal, but merely a reflection of lowest possible rating
- The orange diamond reflects the current residual risk having accounted for existing mitigation strategies.

# Conclusion and Take-Aways

# **MATRIX: What It Does and Does Not Tell Us**

*MATRIX provides leadership with information to inform discussion about whether to accept the residual risk or take additional actions to avoid, transfer or further reduce risk*

## Does

- ✓ Provides transparency on risk mitigation strategies
- ✓ Demonstrates progress on mitigating risk or depicts areas that may require additional attention
- ✓ Enables more robust discussions on risk and risk mitigation
- ✓ Demonstrates movement in addressing risk

## Does Not

- ✗ Does not track key performance indicators
- ✗ Does not define risk tolerance
- ✗ Does not define specific follow-on actions needed
- ✗ Does not conclude satisfaction or dissatisfaction with status of addressing risk

# Impacts to Our ERM Program



## Operationalizing ERM

- Enabling risk-informed decision-making
- Aligning operational priorities to risk



## Increasing ERM Program Visibility

- Building partnerships with internal and external stakeholders
- Identifying and sharing best practices



## Demonstrating the Value of ERM

- Serving as a resource for the University
- Understanding residual risk exposure

## Let's Review

- Aligning assessment of risk mitigation strategies to your risk assessment methodology allows for:
  - Streamlined assessment process
  - Transparency of risk mitigation strategies
  - Measuring progress in reducing risk in relationship to risk exposure

# Questions?



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