

Measuring Value of Postsecondary Education

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Guiding Student Pathways

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Discussion

Review of Current Objectives

- **Performance Measurement Reporting System (PMRS)**
 - Responding to statutory mandate and 2018 BHE charge to report on post-enrollment earnings
- **Strategic Plan for Racial Equity (SPRE)**
 - Responding to 2022 BHE charge to report on social & economic mobility through an equity lens
- **Guiding Student Pathways**
 - Responding to mission-driven interest in using measures of value to guide student & family decision-making

Key Considerations

Measuring Value of Postsecondary Education

Defining Shared Terminology

Indicator	Definition
Earnings	Primarily earnings from employment
Social and Economic Mobility	Describes how economic status changes over a lifetime, measured in varying ways such as the Chetty Mobility Rate (MR), Third Way Economic Mobility Index (EMI) and Dallas College Economic Mobility Index 2 (EMI2)
Return on Investment (ROI)	Average earnings you can expect from investing in a college education when compared to cost of education

Centering Audience Needs

- Responsible for providing insights to:
 - **Policymakers:** Policy & Accountability
 - **Institutions:** Strategic Planning & Continuous Improvement
 - **Students & Families:** Decision-Making
- Consider levels of analysis:
 - **Segment**
 - **Institution**
 - **Program**

Centering Equity

- Responsible for examining equity related to intersecting student attributes including:
 - **Race/Ethnicity**
 - **Gender**
 - **Socioeconomic Status**
 - **Age**
 - **Geography**

Additional Considerations

- Balancing **monetary and non-monetary** measures
- Balancing what data is **available**, what additional data is **feasible to collect or use**
- Development process that is **fair, transparent, and collaborative**

PMRS Requirements

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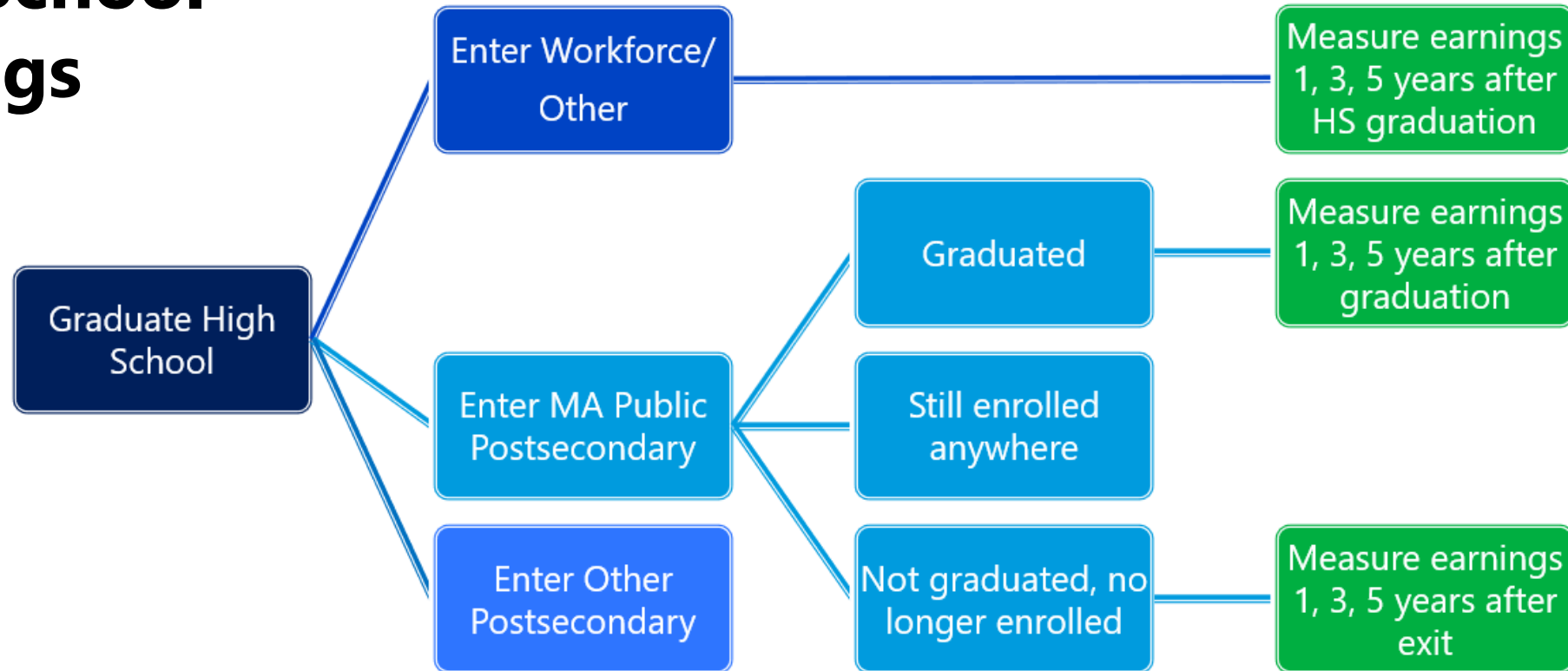
BHE/EBPM Role

- Statute provides broad framework to “promote accountability for effective management and stewardship of public funds and to achieve and demonstrate measurable educational outcomes”
 - [Massachusetts General Laws, Chapter 15A, Section 7a](#)
- BHE last voted on metrics in December 2018, including:
 - **Comparison of Pre- and Post-Enrollment Earnings**
 - **Earnings of Students Who Enroll Immediately After HS**
- Earnings metrics not yet implemented in [PMRS](#)
- Earnings metrics intended to be reported at the institution level and based on credit programs only
- EBPM and Data Governance groups **advising on implementation**

Proposed Models

Measuring Post High School Earnings

The Question: For students who entered postsecondary education immediately after graduating high school, what are their average annual earnings one and five years after graduation or their last known date of enrollment, compared with earnings of high school graduates with no postsecondary education?



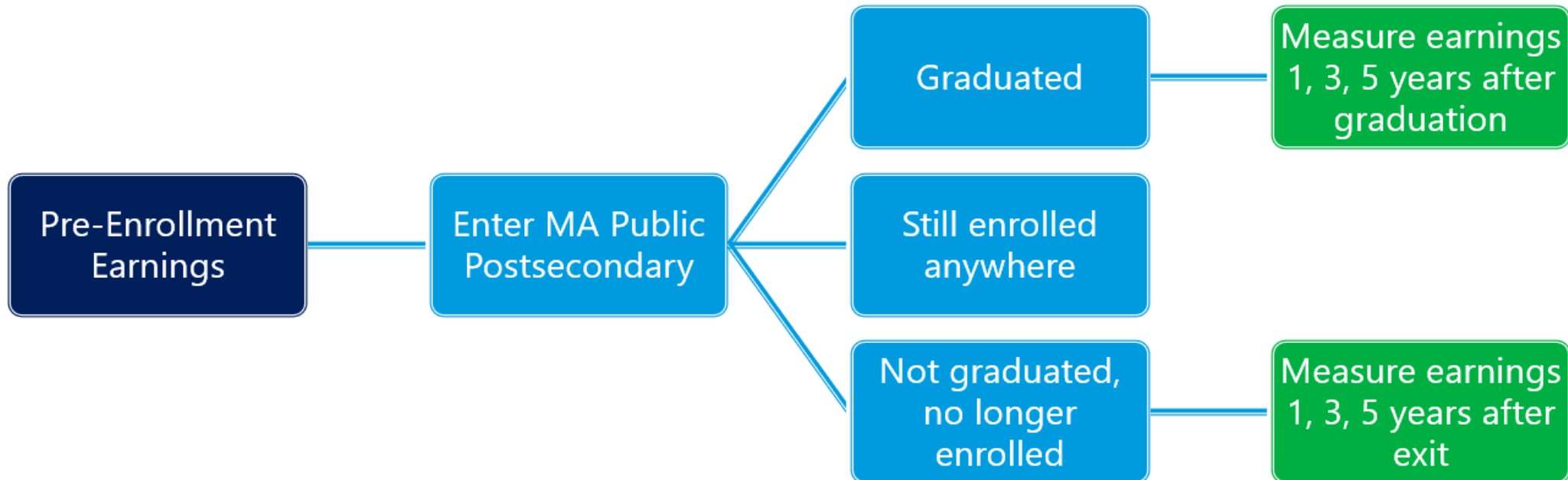
Proposed Models

Measuring Pre/Post Enrollment Earnings

Cohort: New "Non-Traditional" (Ages 25+) first-time and transfer-in students

The Question: How do a student's annual earnings prior to enrollment compare to their earnings after graduation or, for non-traditional students, after their last known date of enrollment?

Timeline:
CCs: Up to 4 years
State U: Up to 6 years



Available Data “Ingredients”



MA public high school graduates identified with DESE data



DHE provides extensive demographic, academic & outcome data



DHE/UI wage match provides quarterly earnings for matched graduates (for students employed in MA)

Questions

PMRS Requirements

SPRE Requirements

Measuring Value of Postsecondary Education

BHE/EBPM Role

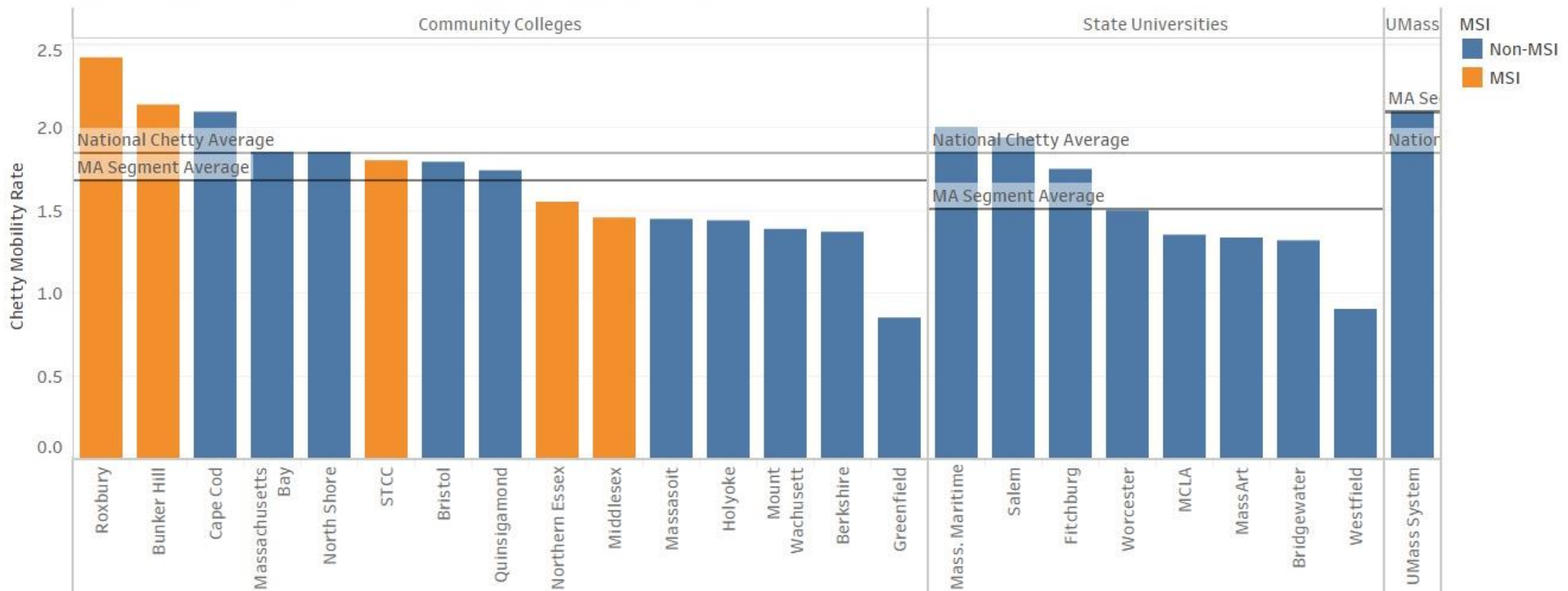
- BHE adopted Strategic Plan in June 2022 with nine metrics, including:
 - Increase Students of Color's **social and economic mobility** as measured against an accepted nationwide measure of social and economic mobility —*Strategic Plan for Racial Equity*
- Social & Economic Mobility metric is still in development
- EBPM and Data Governance groups **advising on methodology and implementation**

Mobility Measures in the Research

Mobility Measure	Definition
Chetty Mobility Rate (MR)	<p>MR = Access x Success Rate</p> <ul style="list-style-type: none"> • Where: Access = Fraction of students who come from bottom quintile • Where: Success Rate = Fraction of these students who end up in top quintile
Third Way Economic Mobility Index (EMI)	<p><i>Focused on four-year institutions; Title IV students and students with family income <\$30k</i></p> <p>EMI = PEP Percentile Rank x Proportion of Pell Grant students</p> <ul style="list-style-type: none"> • Where: Price-to-Earnings Premium (PEP), i.e., number of years to recoup net cost = [total average net price for low-income graduates] / ([median annual earnings of low-income graduates] – [median annual earnings of a high school graduate in state])
Dallas College Economic Mobility Index 2 (EMI2)	<p><i>Focused on two-year institutions; low-income students <\$30k</i></p> <p>EMI2 = AVERAGE(Percentile Rank of ROI + Percentile Rank of Debt + Percentile Rank of 4-Year Transfer or Completion Rate)</p> <ul style="list-style-type: none"> • Where: ROI = [net present value of earnings] - [average net price low-income students pay for college] - [average earnings by age and state of high school graduates with no college (opportunity costs)]
Mathematica Economic Mobility Indicator <i>Still emerging, no data available yet</i>	<p><i>Percentage of individuals who reach the level of earnings needed to enter the fourth (60th to 80th percentile) income quintile in their state or above 1, 3, 5, 10, and 15 years after completing their highest degree or leaving education (high school or postsecondary)</i></p>

Established Measures: How MA Institutions Appear

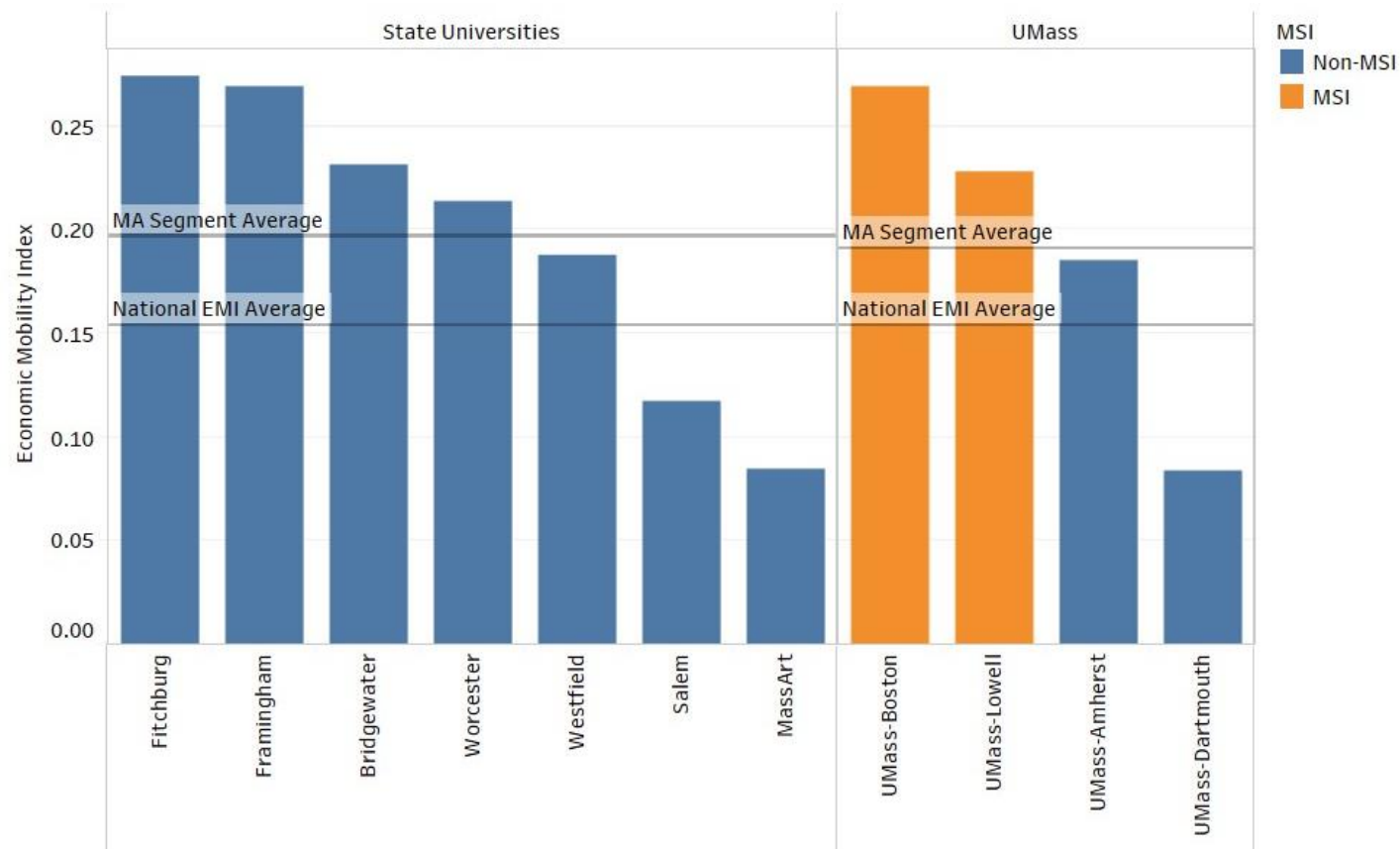
Chetty Mobility Rate (MR): Two- & Four-Year Institutions (2017)



Note: Framingham State University is excluded from the Chetty Mobility Rate data set.

Established Measures: How MA Institutions Appear

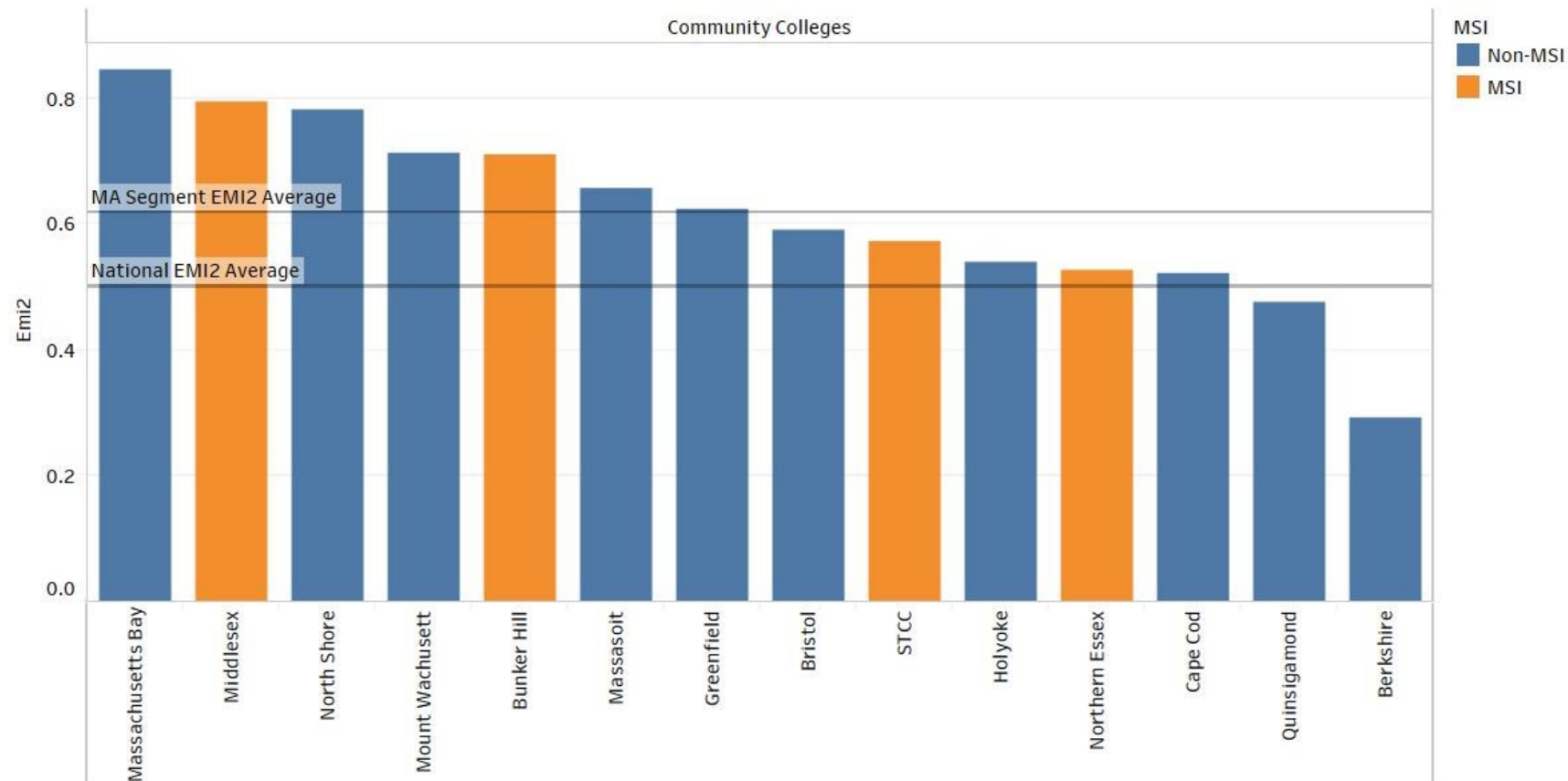
Third Way Economic Mobility Index (EMI): Four-Year Institutions (2023)



Note: Massachusetts College of Liberal Arts and Massachusetts Maritime Academy are excluded from the Third Way Economic Mobility Index data set.

Established Measures: How MA Institutions Appear

Dallas College Economic Mobility Index 2 (EMI2): Two-Year Institutions (2022)



Note: Roxbury Community College is excluded from the Dallas College Economic Mobility Index 2 data set.

Recap of Key Observations

Mobility Measure	Key Observations
Chetty Mobility Rate (MR)	<ul style="list-style-type: none">• It is notable that RCC and BHCC are the top in terms of MR• MR is very sensitive to proportion low-income• Proximity to Boston leads to higher labor market outcomes, and hence higher MR• National average higher than segmental averages for community colleges and state universities• UMass system is rated higher than national average, two campuses (UMass-Boston and UMass-Lowell) are MSIs.
Third Way Economic Mobility Index (EMI)	<ul style="list-style-type: none">• MA 4-year institutions perform better than national 4-year institutions on average, with a wider gap between segment and national averages for state universities• Both MSIs in the UMass segment are above state and national averages
Dallas College Economic Mobility Index 2 (EMI2)	<ul style="list-style-type: none">• All community college MSIs perform better than national average• MA segmental average is higher than national average

Available Data “Ingredients”



DHE (HEIRS) provides extensive demographic, academic & outcome data



DHE (OSFA) provides extensive economic data—AGI/EFC, costs, non-loan aid & loan debt



DHE/UI wage match provides quarterly earnings for matched graduates (for students employed in MA)

Questions

SPRE Requirements

Guiding Student Pathways

Measuring Value of Postsecondary Education

BHE/EBPM Role

- While not currently mandated by statute or BHE vote, there is a mission-driven interest in using available data to **support student & family decision-making** around higher education
- An essential component would be **how to measure and communicate value**, e.g., return on investment, to these stakeholders
- EBPM is **advising on an approach and strategy** to address this interest alongside other mandates

Measuring Value: ROI

- Two examples of ways to measure ROI:
 - **Bellwether approach**
 - Return on Investment (ROI) = Change in earnings over a specific period since pathway completion / The true, out-of-pocket cost for completing a pathway, as well as the opportunity cost
 - **NEBHE approach**
 - Net Present Value (NPV) = Benefit - Cost
 - Benefit: Median earnings of former students summed over 10 years after entering, discounted every year at an average interest rate of 3%
 - Cost: Average annual net price, multiplied by time to degree

Measuring Value: ROI Consideration

- Need to differentiate between **sticker cost** and **true, net out-of-pocket cost**, including incurred debt
- Need to factor in **opportunity costs** of pursuing higher education
- Earnings vary by **degree level, institution** and **major**, vary by **geography** and **demographics**
- **Non-monetary benefits** of an education are significant but difficult to quantify

Measuring Value: Public & Private Benefits

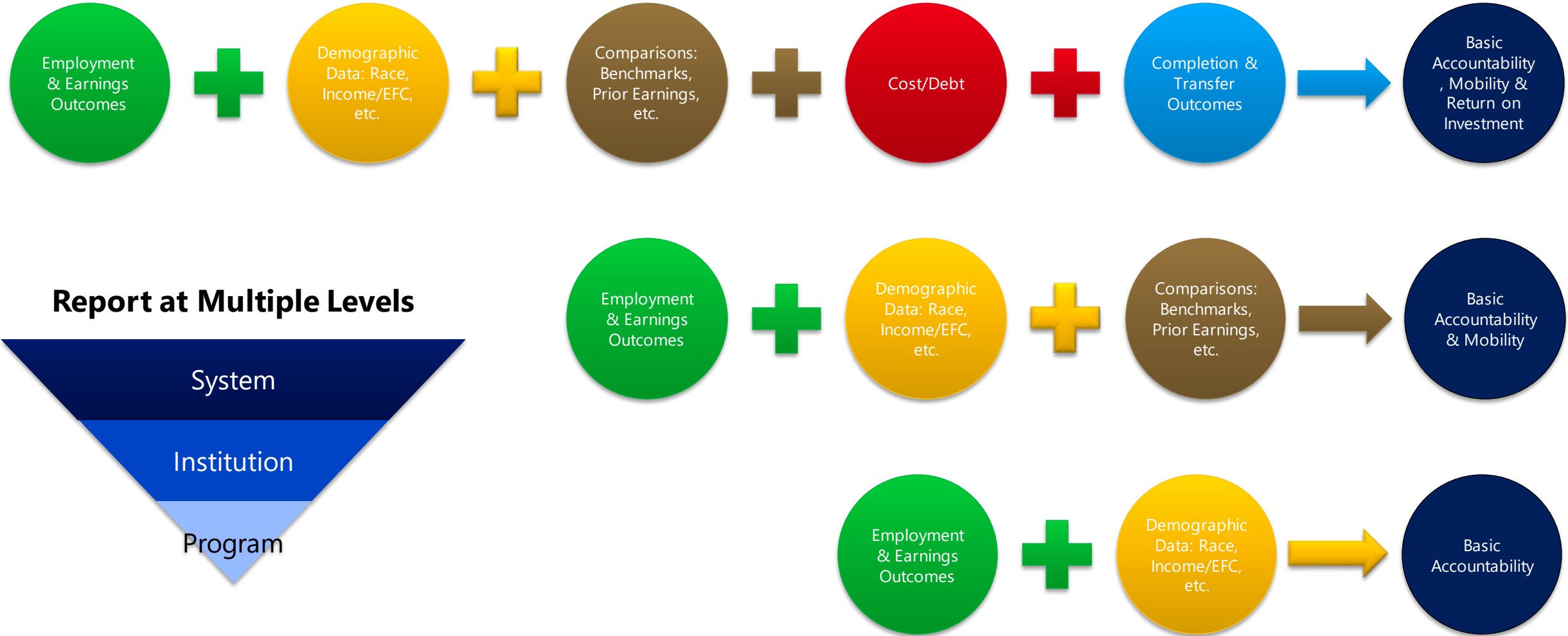
- Higher education allows for both individuals and the Commonwealth to benefit from the returns on education
 - Attainment can strengthen **pathways to lucrative careers** and lead to ample **return on investment for the individual**
 - The fiscal benefits of education, including **higher state and local tax contributions** and **less use of social programs** (transitional assistance, Medicaid, unemployment compensation), depend on regular, high-quality employment

A Comprehensive Approach

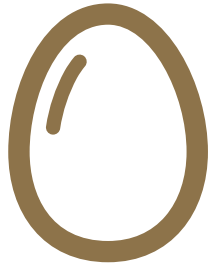
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A Comprehensive Approach

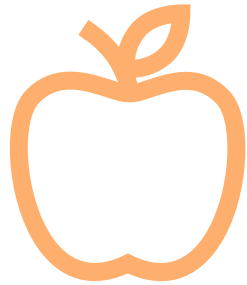
From Basic Accountability to Decision-Making



Review of Available Data “Ingredients”



Student Demographics
(DHE)



K-12 Attributes & Outcomes
(DESE)



Adjusted Gross Income / Expected Family Contribution
(DHE)



Student Costs
(DHE)



Non-Loan Aid Received
(DHE)



Academic Program & Degree
(DHE)



Student Outcomes
(DHE)



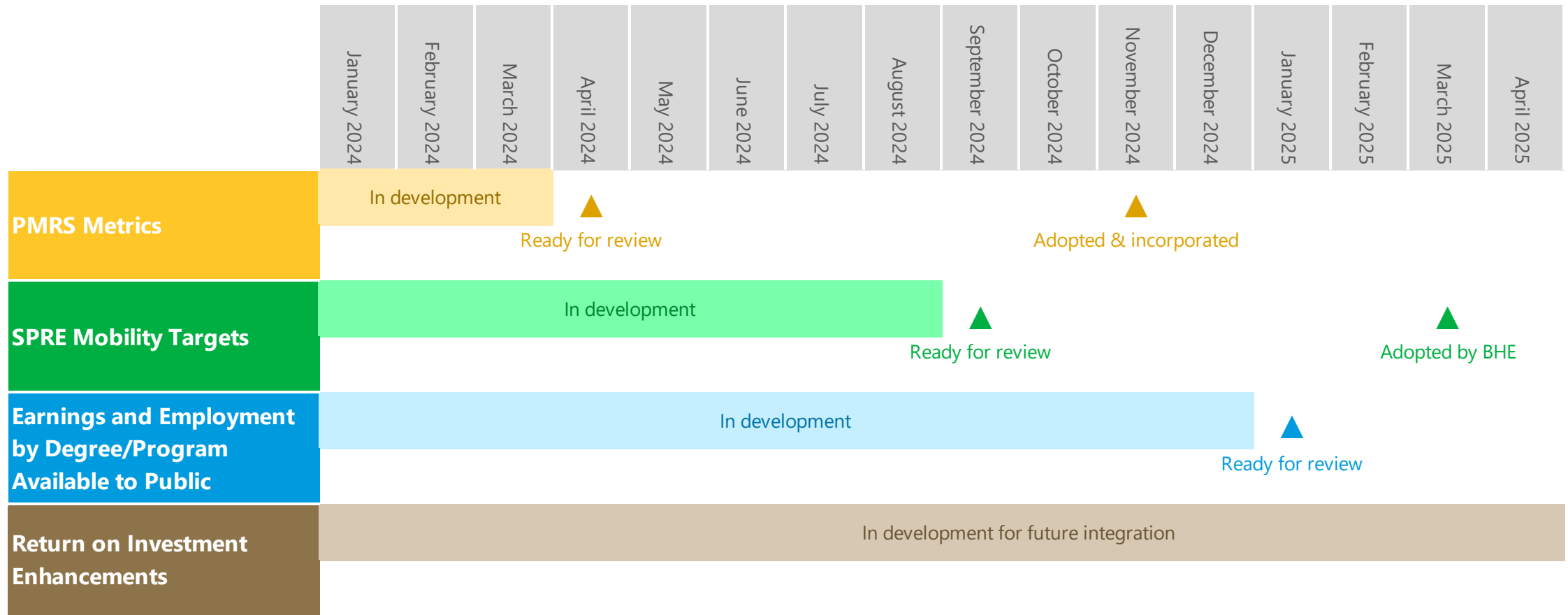
Student Loan Debt
(DHE)



Employment & Earnings of Matched MA Graduates
(DHE/UI Match)

A Comprehensive Approach

Proposed Timeline



Questions

Measuring Value of Postsecondary Education