A Comprehensive Approach to Measuring Social and Economic Mobility

MASSACHUSETTS
Department of
Higher Education

BHE Charge

- On June 20, 2023, the Board of Higher Education (BHE), along with approving targets for the Strategic Plan for Racial Equity (SPRE) metrics, moved to align the goals and targets of SPRE and existing accountability efforts, including but not limited to:
  - Performance Measurement Reporting System (PMRS)
  - Campus strategic planning
  - Presidential evaluation criteria

- Social and Economic Mobility
  - PMRS Earnings and Employment Metrics
  - Social & Economic Mobility Goal

SPRE and PMRS Metrics

- **SPRE** (June 2022)
  - **Increase Students of Color's social and economic mobility** as measured against an accepted nationwide measure of social and economic mobility

- **PMRS** (December 2018)
  - **Traditional-age students:** Earnings of MA public postsecondary graduates and non-completers who enrolled immediately after high school, compared with earnings of high school graduates with no postsecondary education
  - **Adult students:** Earnings of MA public postsecondary graduates and non-completers who enrolled at age 25 and older, compared with their pre-enrollment earnings

FY24 EBPM Milestones

- **September:** Framework for earnings-related metrics

- **December:** Provided a scan of national mobility metrics; discussed measuring value of higher education, including a look at ROI definitions

- **March:** Received advice from experts

- **June:** Reviewing progress, setting stage for next steps

Mobility Measures in the Research

Mobility Measure	Definition
Chetty Mobility Rate (MR)	MR = Access x Success Rate • 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)	*Focused on four-year institutions; Title IV students and students with family income <$30k* EMI = PEP Percentile Rank x Proportion of Pell Grant students • 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)	*Focused on two-year institutions; low-income students <$30k* EMI2 = AVERAGE(Percentile Rank of ROI + Percentile Rank of Debt + Percentile Rank of 4-Year Transfer or Completion Rate) • 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 *Still emerging, no data available yet*	*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)*

Chetty Mobility Rate: 2- and 4-year Institutions

Chetty Mobility Rate by Minority Serving Institution (MSI) status, MA 2 year and 4 year institutions
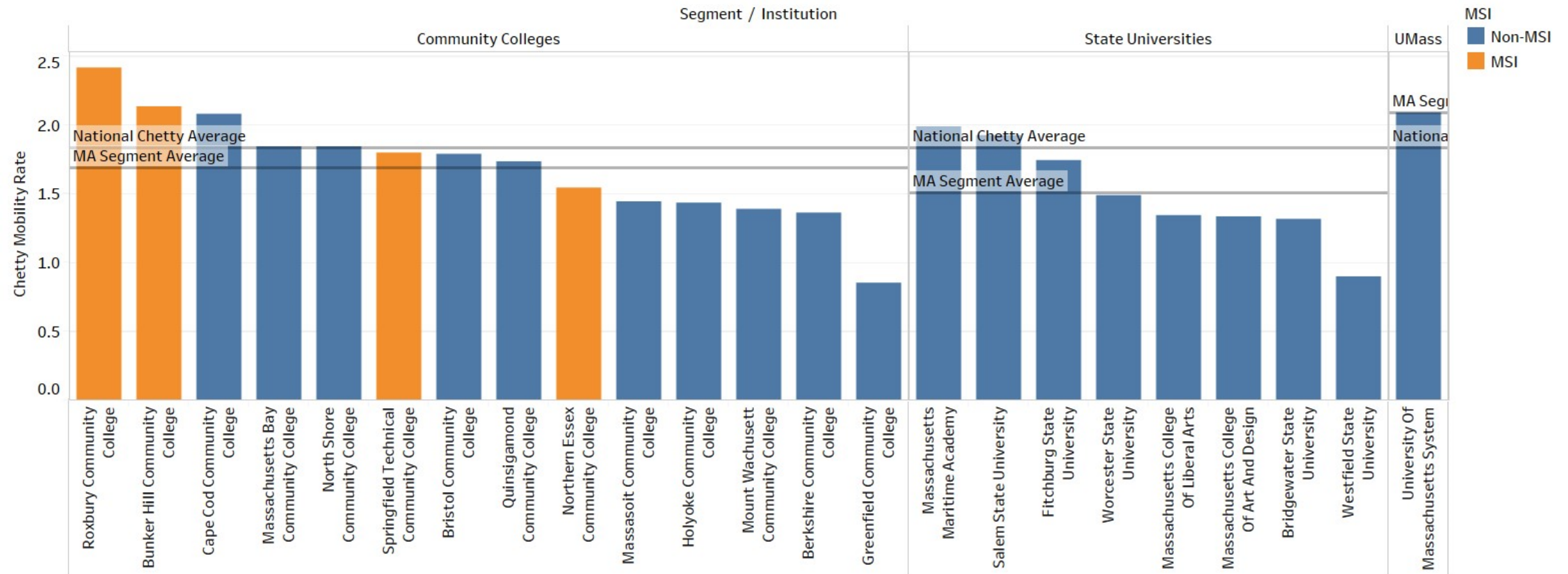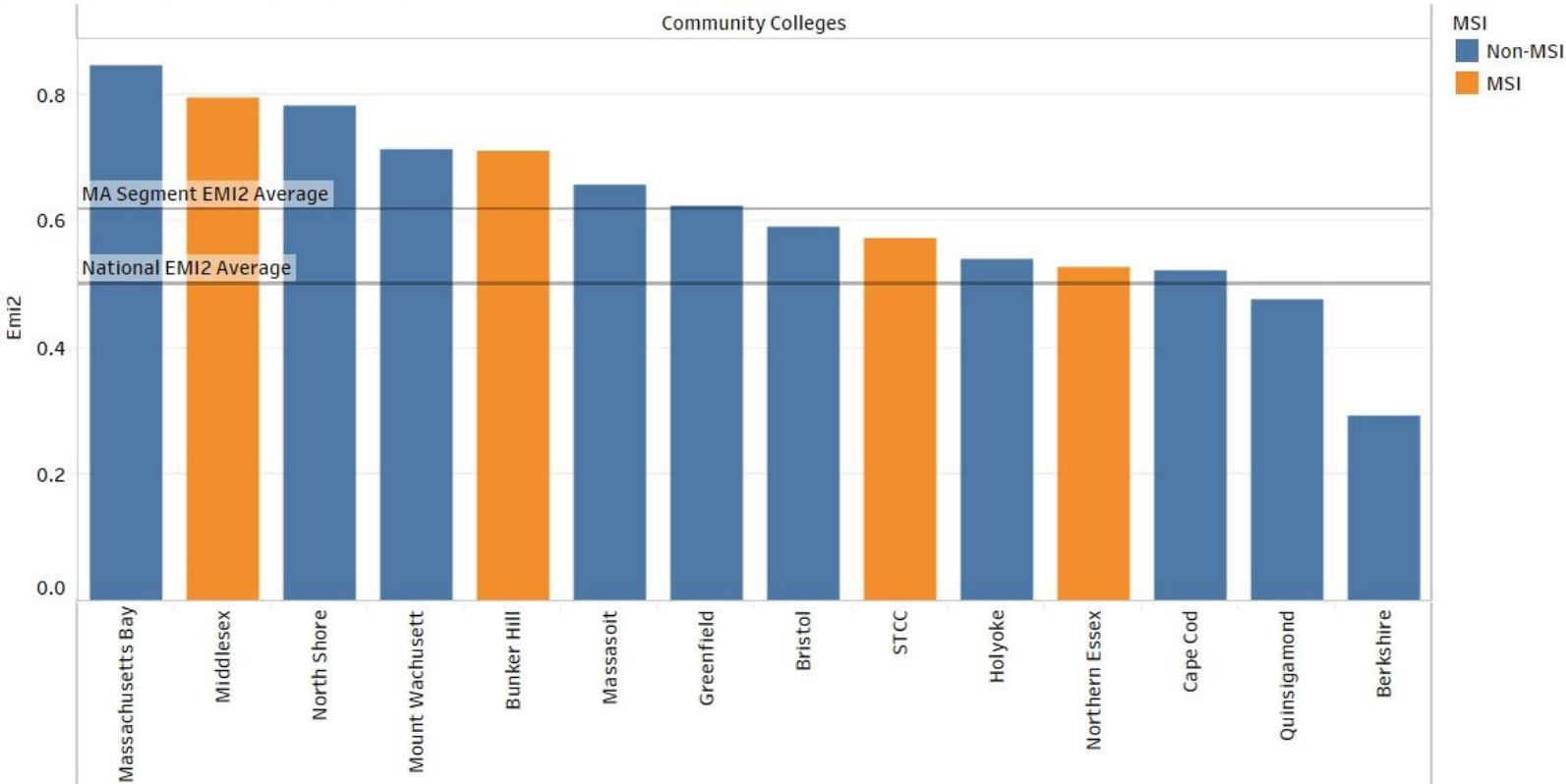
Third Way Economic Mobility Index (EMI): 4-year

Third Way Economic Mobility Index by Minority Serving Institution (MSI) status, MA Public 4 year institutitions, 2023
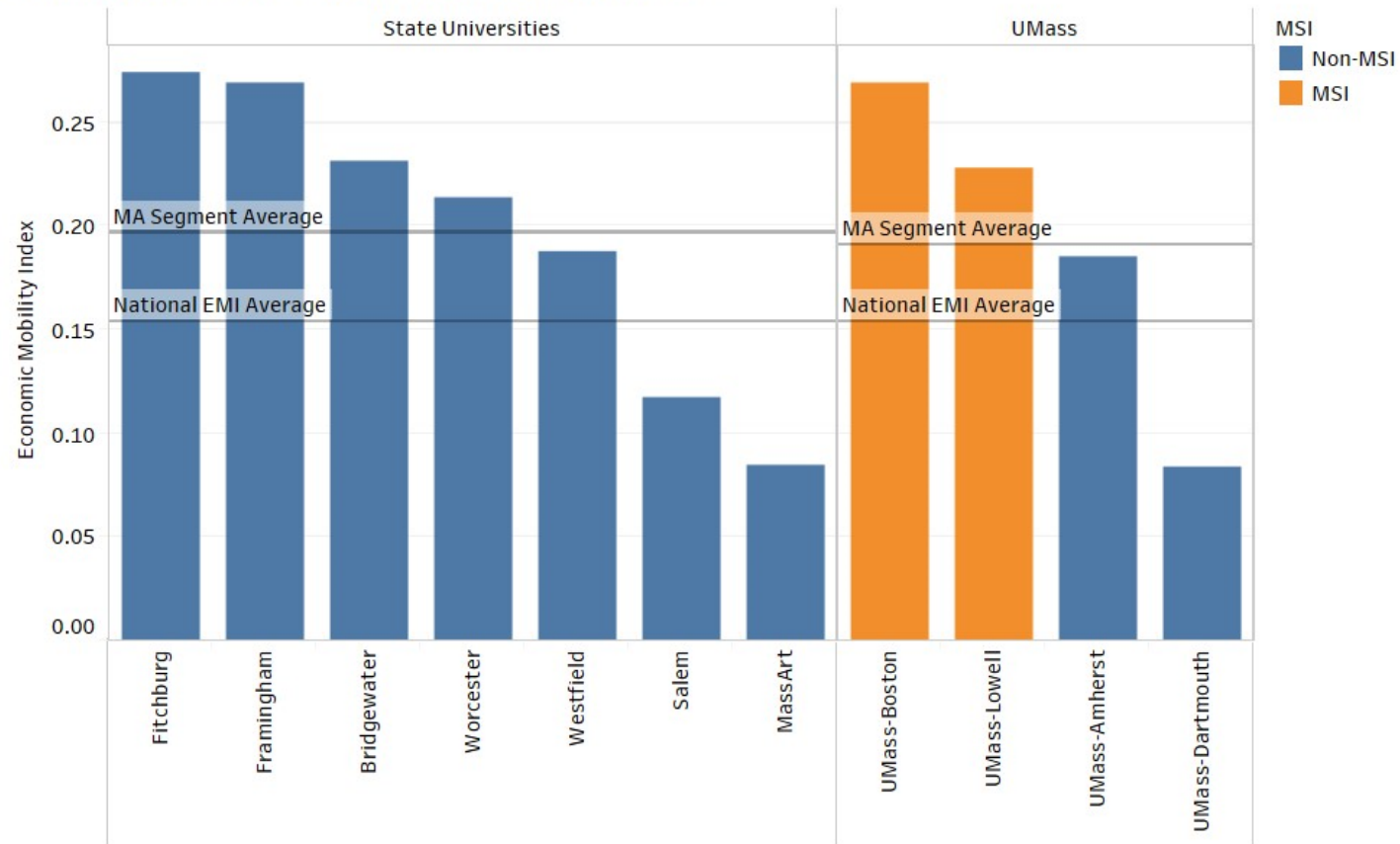
Dallas College Economic Mobility Index 2 (EMI2): 2-year Institutions

Dallas College Economic Mobility Index 2 (EMI2) by Minority Serving Institution (MSI) status, MA Public 2 year Institutitions, 2022

National Metrics for MA Public Higher Education

- **Advantages**
  - Available with detailed, accepted methodology
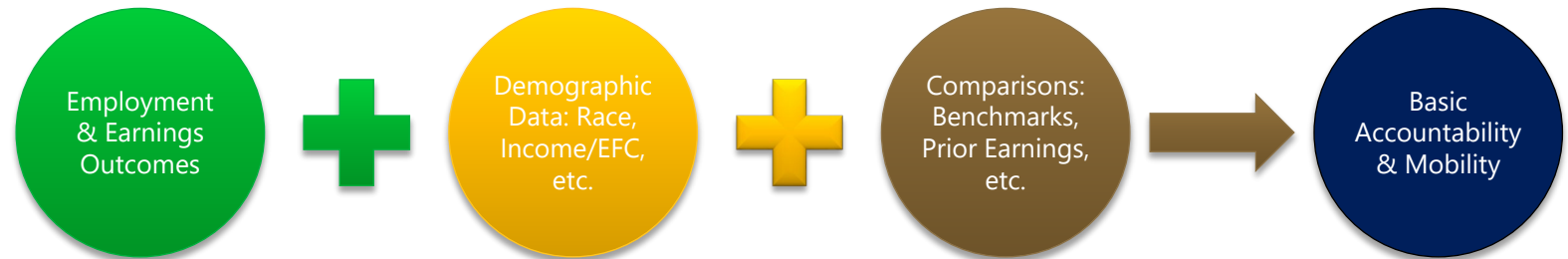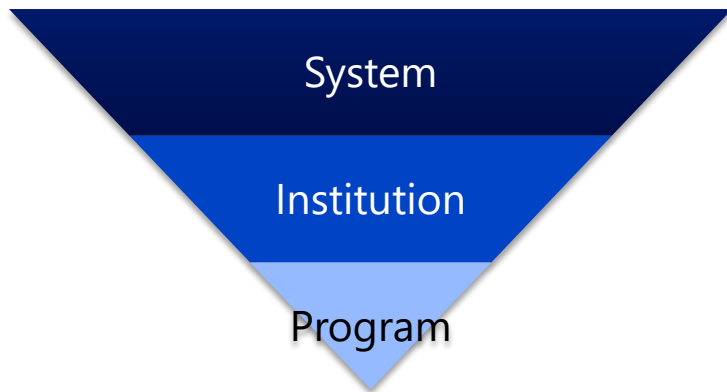 - Comparisons are possible across institutions and states

- **Disadvantages**
  - Difficult to aggregate to system level
  - Not disaggregated by race/ethnicity and other student characteristics
  - Rely on institutional averages for costs and debt

Employment and Earnings Reports

Status: Available to licensed users at DHE and campuses

Originally developed with the community colleges through their U.S. Department of Labor TAACCCT grant (2016–2019), these reports have since been expanded to all three segments.

Data sources: HEIRS, NSC, UI

Employment & Earnings Outcomes **+** Demographic Data: Race, Income/EFC, etc. → Basic Accountability
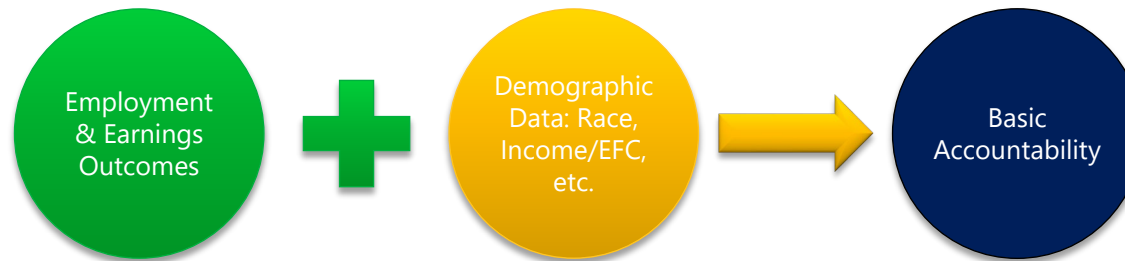
- Percentage of MA public postsecondary graduates located in MA Unemployment Insurance database
- Earnings of matched postsecondary graduates
- Measured 1, 3, and 5 years after postsecondary graduation

- Race and Ethnicity
- Gender
- Age
- Pell Status

Report at Multiple Levels

System

Institution

Program

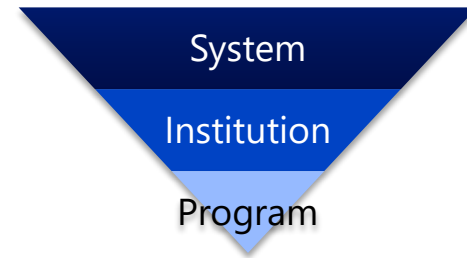# Employment and Earnings Reports

Status: Available to licensed users at DHE and campuses

Employment & Earnings Outcomes of Graduates
Wages Adjusted to 2016 Dollars

Select Graduating Cohort Year: 2020

Group Results by Metamajor or NAISC (Industry): Metamajor

Select Race/Ethnicity: (All)

Select Years After Graduation: 1

Select Metamajor: (All)

Select Gender: (All)

Select Segment: (All)

Select Credential Type: Associate

Select Pell Eligibility: (All)

Select Institution: (All)

Select CIP 6 Title(s): (All)

Select Age Group at Graduation: (All)
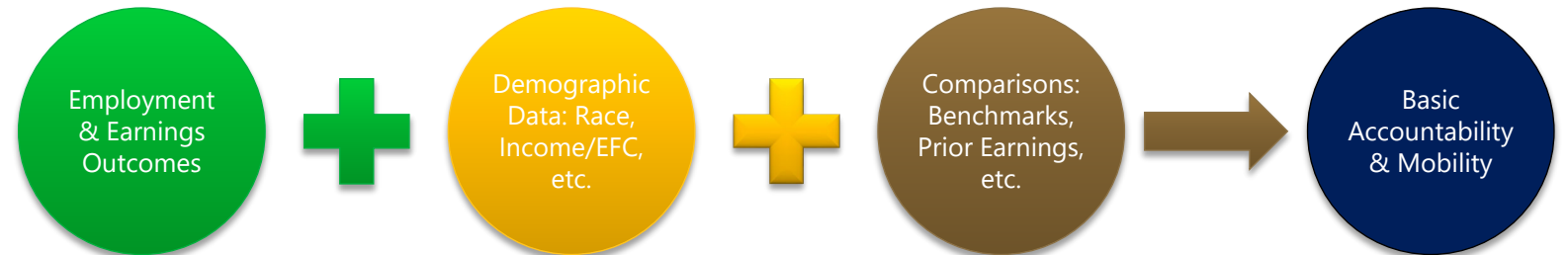
Select Transfer Student Type: (All)

		Number of Graduates	Number of Employed Only in MA	% Employed Only in MA	% Pursuing Higher Education Only	% Employed in MA and Pursuing Higher Education	% Neither Employed in MA nor Pursuing Higher Education	% Employed Full-time in MA	Full-time Mean Wage	25th Percentile Full-time Wage	Median Full-time Wage	75th Percentile Full-time Wage
Arts and Humanities	Associate	2,341	706	30%	13%	47%	10%	13%	$45,354	$33,809	$39,471	$50,483
Business and Communication	Associate	1,389	466	34%	11%	43%	12%	18%	$53,452	$36,116	$46,596	$62,305
Education	Associate	218	74	34%	7%	54%	6%	15%	$37,590	$31,591	$36,534	$41,427
Health	Associate	1,480	779	53%	5%	36%	7%	42%	$60,535	$44,221	$59,239	$73,080
Social , Behavioral Sciences and Huma..	Associate	461	148	32%	11%	48%	8%	16%	$43,999	$33,834	$39,122	$49,264
STEM	Associate	1,267	406	32%	16%	40%	12%	18%	$53,008	$36,657	$46,003	$62,385
Trades	Associate	751	362	48%	6%	36%	9%	31%	$67,701	$39,115	$57,775	$90,740
Grand Total		7,907	2,941	37%	11%	42%	10%	22%	$55,135	$36,879	$48,390	$66,796

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A Comprehensive Approach to Measuring Social and Economic Mobility

PMRS Metric: Post-Enrollment Earnings
Benchmarked to Earnings of High School Graduates

Status: In development for public-facing PMRS

For students who entered postsecondary education immediately after graduating high school, what are their average annual earnings at defined points in time after graduation or their last known date of enrollment, compared with earnings of high school graduates with no postsecondary education?

Data sources: HEIRS, Edwin, NSC, UI

Employment & Earnings Outcomes

➕

Demographic Data: Race, Income/EFC, etc.

➕

Comparisons: Benchmarks, Prior Earnings, etc.
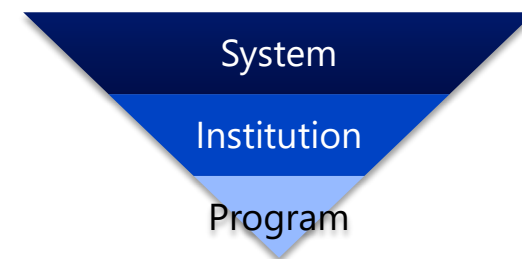
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Basic Accountability & Mobility

- Earnings of MA public high school graduates who then graduated from MA public postsecondary
- Earnings of MA public high school graduates who attended but did not complete MA public postsecondary
- Measured 1, 3, 5, and 10 years after postsecondary graduation or exit

- Race and Ethnicity
- Gender
- Pell Status
- Geography

- Earnings of MA public high school graduates who did not attend any postsecondary
- Measured 1, 3, 5, and 10 years after HS graduation

Report at Multiple Levels, to Multiple Audiences

System

Institution

Program

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A Comprehensive Approach to Measuring Social and Economic Mobility

PMRS Metric: Post-Enrollment Earnings
Benchmarked to Earnings of High School Graduates

**Status:** In development for public-facing PMRS

Median Earnings, 1, 3, 5 Years after Exit (Graduates and Non-Completers), 2012 High School Graduates Enrolling in Community Colleges
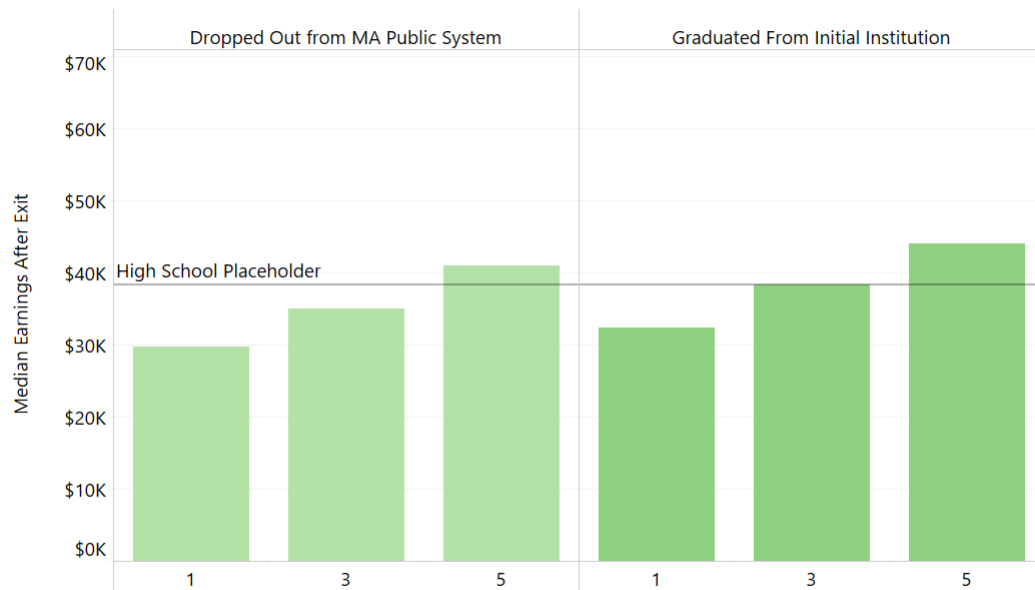
Note: Earnings have been adjusted for inflation to 2020 constant dollars. The placeholder constant line iwith a value of $38.300 indicates median annual earnings of U.S. full-time, year-round workers ages 25–34 for high school graduates in 2020. Source: National Center for Education Statistics (NCES), 2024.
https://nces.ed.gov/programs/coe/indicator/cba/annual-earnings

Median Earnings, 1, 3, 5 Years after Exit (Graduates and Non-Completers), 2012 High School Graduates Enrolling in State Universities
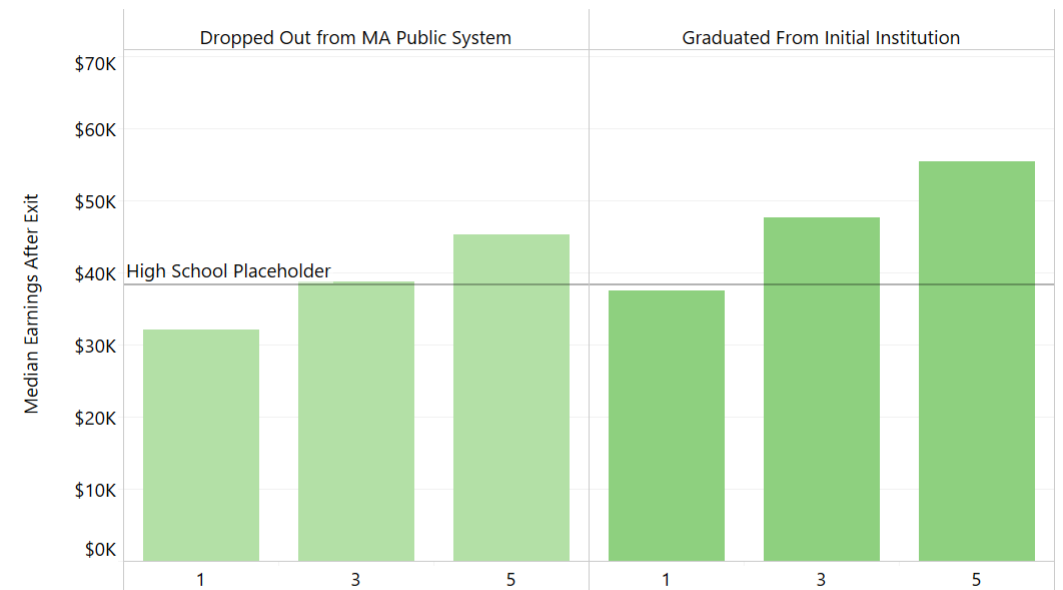
Note: Earnings have been adjusted for inflation to 2020 constant dollars. The placeholder constant line iwith a value of $38.300 indicates median annual earnings of U.S. full-time, year-round workers ages 25–34 for high school graduates in 2020. Source: National Center for Education Statistics (NCES), 2024.
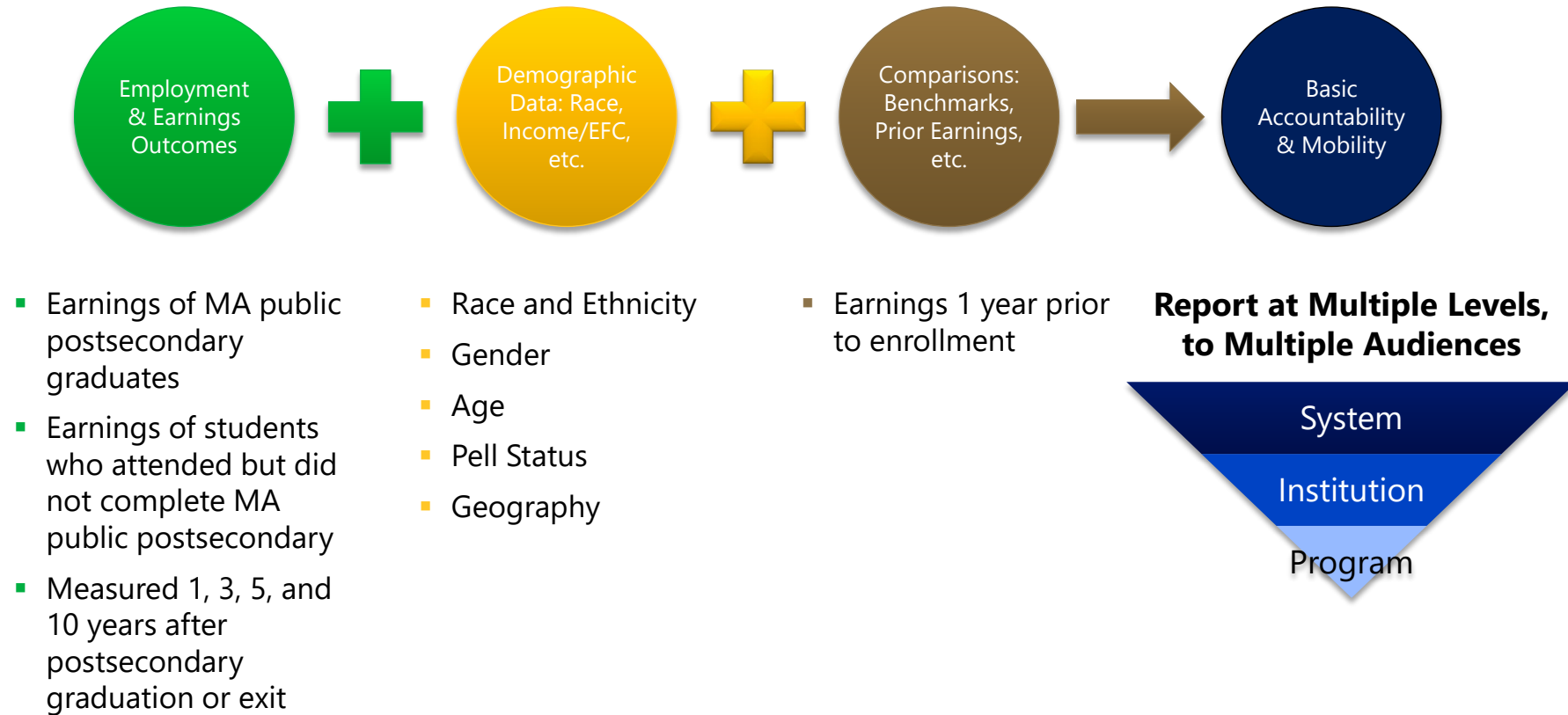https://nces.ed.gov/programs/coe/indicator/cba/annual-earnings

PMRS Metric: Post-Enrollment Earnings
Benchmarked to Pre-Enrollment Earnings

Status: In development for public-facing PMRS

For students age 25 and older who entered postsecondary education after a period of employment, how do their annual earnings prior to enrollment compare to their earnings at defined points in time after graduation or after their last known date of enrollment?

Data sources: HEIRS, NSC, UI

Employment & Earnings Outcomes + **Demographic Data: Race, Income/EFC, etc.** + **Comparisons: Benchmarks, Prior Earnings, etc.** → **Basic Accountability & Mobility**

- Earnings of MA public postsecondary graduates
- Earnings of students who attended but did not complete MA public postsecondary
- Measured 1, 3, 5, and 10 years after postsecondary graduation or exit

- Race and Ethnicity
- Gender
- Age
- Pell Status
- Geography

- Earnings 1 year prior to enrollment

Report at Multiple Levels, to Multiple Audiences

- System
- Institution
- Program
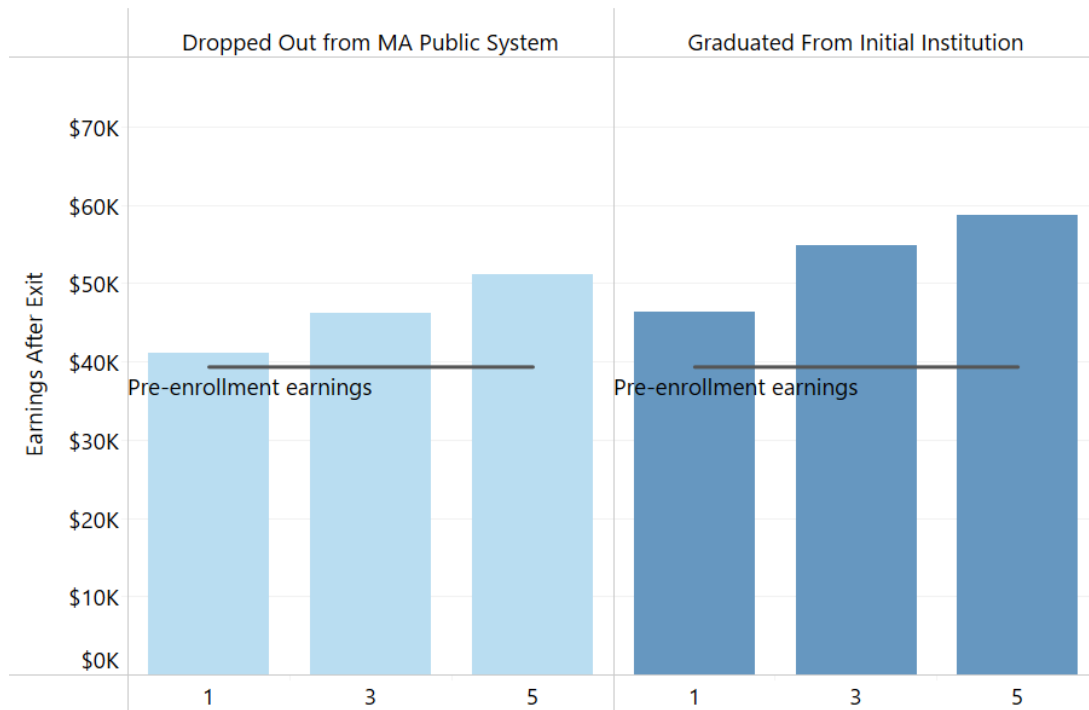
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PMRS Metric: Post-Enrollment Earnings
## *Benchmarked to* Pre-Enrollment Earnings

Status: In development for public-facing PMRS

Median Pre/Post Enrollment Earnings, 2012 Fall Entering Cohort at Community Colleges, 1, 3, 5 Years After Exit (Graduation and Non-Completers) and Year Prior to Enrollment

Note: Earnings have been adjusted for inflation to 2020 constant dollars.

Median Pre/Post Enrollment Earnings, 2012 Fall Entering Cohort at State Universities, 1, 3, 5 Years After Exit (Graduation and Non-Completers) and Year Prior to Enrollment
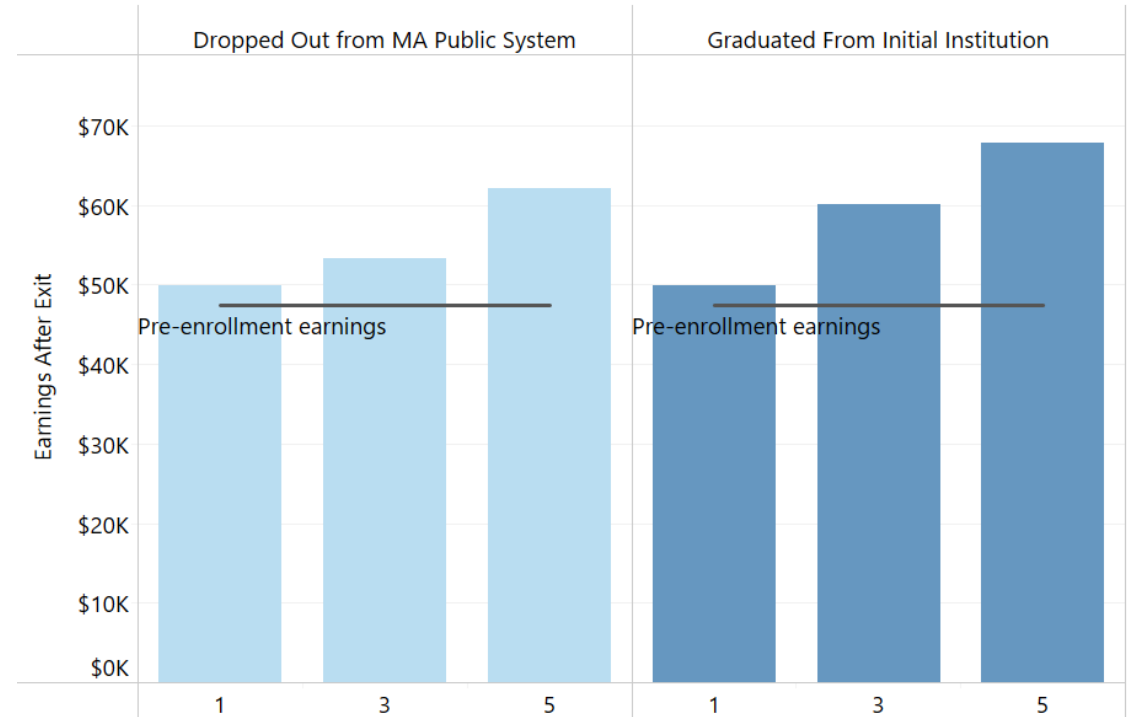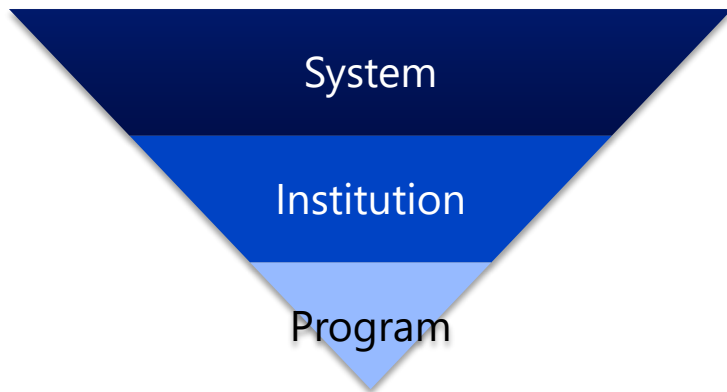
Note: Earnings have been adjusted for inflation to 2020 constant dollars.

From Basic Accountability to Decision-Making

Employment & Earnings Outcomes **+** Demographic Data: Race, Income/EFC, etc. **+** Comparisons: Benchmarks, Prior Earnings, etc. **+** Cost/Debt **=** Basic Accountability, Mobility & Return on Investment

Report at Multiple Levels

System

Institution

Program

Employment & Earnings Outcomes **+** Demographic Data: Race, Income/EFC, etc. **+** Comparisons: Benchmarks, Prior Earnings, etc. **→** Basic Accountability & Mobility

Employment & Earnings Outcomes **+** Demographic Data: Race, Income/EFC, etc. **→** Basic Accountability

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Review of Available Data "Ingredients"
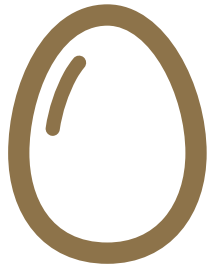
Student Demographics (DHE)

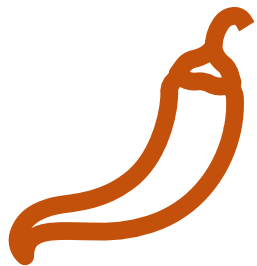**K-12 Attributes & Outcomes** (DESE)

Adjusted Gross Income / Expected Family Contribution (DHE)
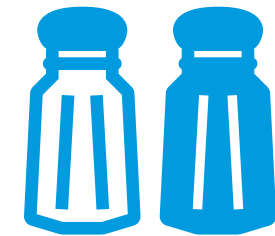
Student Costs (DHE)

Non-Loan Aid Received (DHE)

Academic Program & Degree (DHE)

Student Outcomes (DHE)
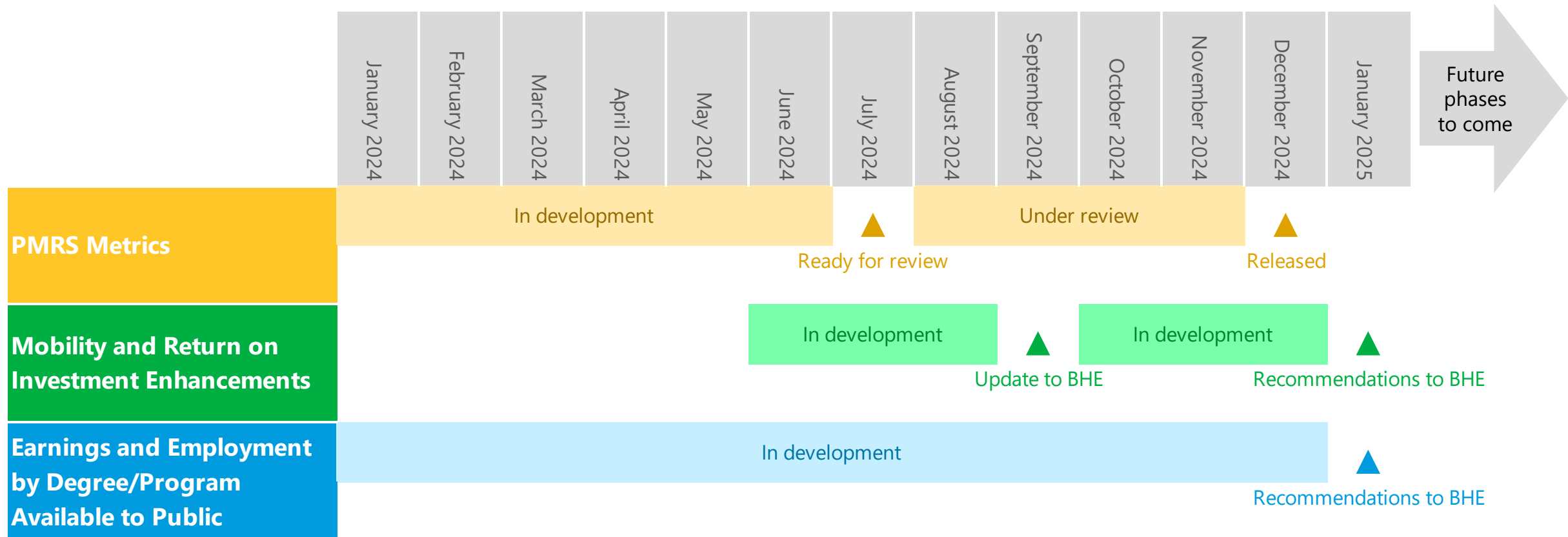
Student Loan Debt (DHE)

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

Measuring Value Considerations

- 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

- Balancing what data is **available** with what additional data is **feasible to collect or use**

A Comprehensive Approach to Measuring Social and Economic Mobility

Proposed Timeline for Next Phase

	January 2024	February 2024	March 2024	April 2024	May 2024	June 2024	July 2024	August 2024	September 2024	October 2024	November 2024	December 2024	January 2025	Future phases to come
PMRS Metrics	In development						▲ Ready for review	Under review				▲ Released		
Mobility and Return on Investment Enhancements						In development		▲ Update to BHE	In development				▲ Recommendations to BHE	
Earnings and Employment by Degree/Program Available to Public	In development											▲ Recommendations to BHE		

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Questions