Texas Higher Education
COORDINATING BOARD

Credentials of Value Methodology

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Credentials of Value under HB8:
Achieving Positive Return on Investment

Credentials of value provide a positive return on investments (ROI) to students. Starting FY25, community colleges will be eligible for performance funding for 2 tiers of Credentials of Value:

CREDENTIALS OF VALUE BASELINE

Institutions are funded for **all conferred credentials** when a **typical graduate** earns cumulative wages greater than median earnings of a typical high school graduate and recoups the net cost of attendance within 10 years of earning the credential

CREDENTIALS OF VALUE PREMIUM

Institutions receive premium funding for each student earning a **credential of value** who is projected to achieve a positive ROI at or before a target year when most students in comparable programs are projected to reach positive ROI

Credentials of Value :
Baseline Rule

RULE §13.556(b)(2)

(A) A program demonstrates a positive return on investment when the majority of students statewide completing the credential, within a program area, are expected to accrue earnings greater than the cumulative median earnings of Texas high school graduates who do not hold additional credentials, plus recouping the net cost of attendance within ten years after earning the credential.

(B) This calculation of return on investment shall include students' opportunity cost, calculated as the difference between median earnings for Texas high school graduates and estimated median earnings for students while enrolled:

(i) Four years for baccalaureate degree holders;

(ii) Two years for associate degree holders; or

(iii) One year for holders of a Level 1 certificate, Level 2 certificate, Advanced Technical Certificate, or Continuing Education Certificate.

(C) The Coordinating Board shall calculate the expected return on investment for each program based on the most current data available to the agency for the funding year for each program or a comparable program.

Credentials of Value :
Premium Rule

RULE §13.556(c)

(1) The student completes the credential of value on or before the target year for completion that, for the majority of students who complete comparable programs, would enable the student to achieve a positive return on investment within the timeframe specified for the program as described in paragraph (2) of this subsection.

(2) For each program, the Coordinating Board shall calculate the year in which the majority of comparable programs would be projected to have the majority of their students achieve a positive return on investment.

Credentials of Value :
16 Broad Program Areas by Degree Level

Broad Program Area	2-digit CIP
Agriculture and natural resources	01 - Agriculture, agriculture operations, and related sciences; 03 - Natural resources and conservation
Architecture and engineering	04 - Architecture and related services; 14 – Engineering; 15- Engineering technologies and engineering-related fields
Arts	50 - Visual and performing arts
Biology and life sciences	26 - Biological and biomedical sciences
Business	52 - Business, management, marketing, and related support services
Communications and journalism	09 - Communication, journalism, and related programs; 10- Communications technologies/technicians and support services
Computers, statistics, and mathematics	11- Computer and information sciences and support services; 27 - Mathematics and statistics
Education	13– Education; 25 - Library science; and 30.99 - Multi/interdisciplinary studies
Health	51 - Health professions and related programs

Credentials of Value :
16 Broad Program Areas by Degree Level

Broad Program Area	2-digit CIP
Humanities and liberal arts	05 - Area, ethnic, cultural, gender, and group studies; 16- Foreign languages, literatures, and linguistics; 23 - English language and literature/letters; 24 - Liberal arts and sciences, general studies, and humanities; 30- Multi/interdisciplinary studies; 38 - Philosophy and religious studies; 39 - Theology and religious studies; and 54 – History
Industrial arts, consumer services, and recreation	12- Personal and culinary services; 19- Family and consumer sciences/human sciences; 31- Parks, recreation, leisure, and fitness studies; 46 - Construction trades; 47 - Mechanic and repair technologies/technicians; and 49 - Transportation and material moving
Law, public policy, and social work	22 - Legal professions and studies; 43 - Homeland security, law enforcement, firefighting, and related protective services; 44 - Public administration and social service professions
Physical sciences	40 - Physical sciences; 41- Science technologies/technicians
Psychology	42 - Psychology
Social sciences	45 - Social sciences
Other	28: Reserve Officer Training Corps; 29: Military Technologies; 32: Basic Skills; 33: Citizenship Activities; 34: Health-related Knowledge and Skills; 35: Interpersonal and Social Skills; 36: Leisure and Recreational Activities; 37: Personal Awareness and Self-Improvement; 47: Mechanic and Repair Technologies/Technicians; 48: Precision Production; 53: High School/Secondary Diplomas and Certificates; and 60: Residency Programs

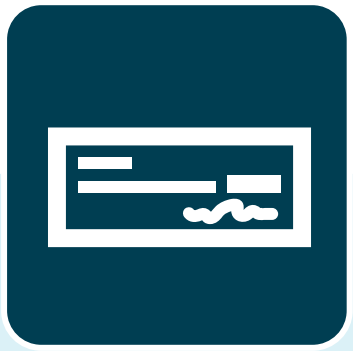
Credentials of Value :
Data Sources

Individual-level Data

Aggregate Data

Graduation, Enrollment, & Schedule Records

Sources: CBM009,CBM0C1, CBM0CS



Tuition

Source: IPEDS

Financial Aid

Source: FADS

Base Wage

Source: American Community Survey 5-year sample (2014-2018)

Graduate Earnings

Source: Texas Workforce Commission UI wage records

Baseline

Credentials of Value

Baseline Cohort

- **Graduates Included**：
  - Students who receive their undergraduate credentials (i.e., Baccalaureate, Associate, or Certificate) from either Texas public 2-year or 4-year institutions
- **Graduates Excluded**：
  - Students who receive their credentials at Texas private institutions
  - Students who transferred from out -of-state institutions to Texas institutions
  - Students who do not have a first time in college (FTIC) record
  - Students who continue their education beyond the first credential received
  - Students who previously earned a degree of the same level or higher

Credentials of Value:
Achieving Positive Return on Investment

INVESTMENT

TOTAL STUDENT INVESTMENT

+

OPPORTUNITY COST

Opportunity Cost *(foregone wages)*

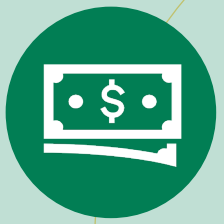
+

COMPARISON WAGE

Base Comparison Wage

≤

CUMULATIVE EARNINGS



CUMULATIVE EARNINGS

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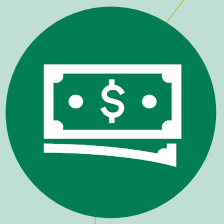
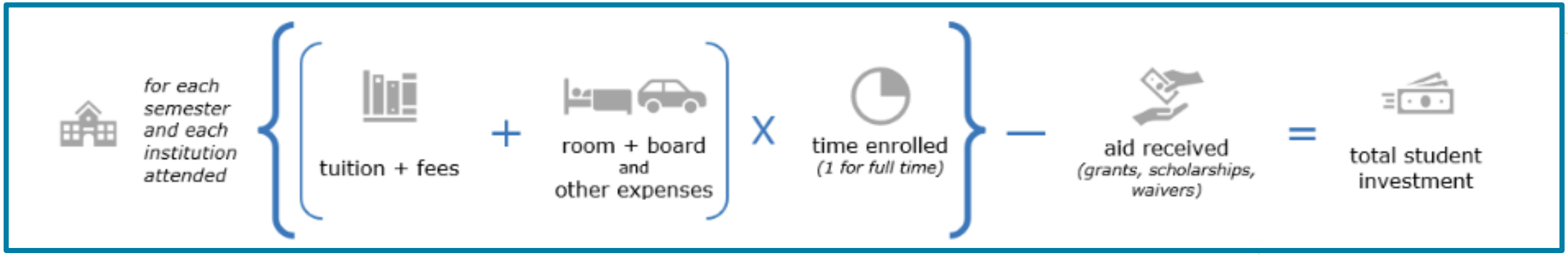
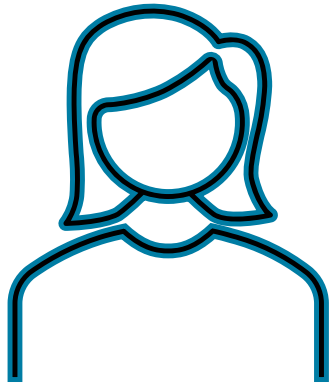


CUMULATIVE EARNINGS

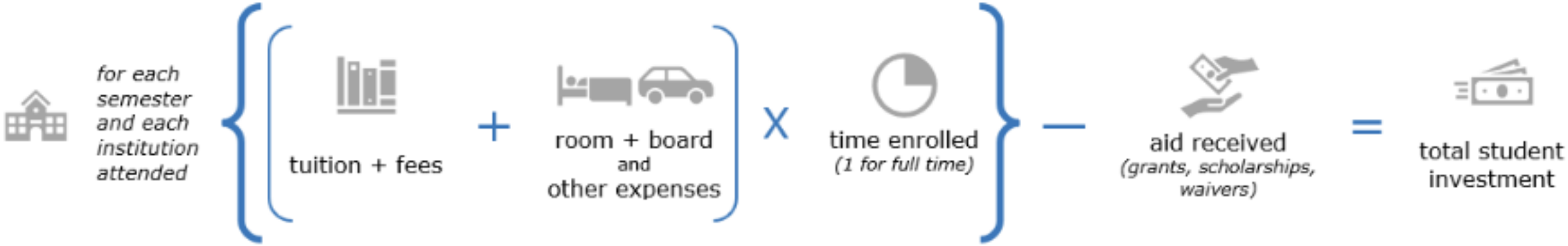
Total Student Investment



Meet Maria



- Maria graduated with an Associate degree in **Biology** from Above and Beyond Community College (ABCC).
- She took three years to complete her degree.
- She started her program in fall 2010 and graduated in May 2013.
- Biology (26.0101) is in the Biology and Life Sciences Program Area.
    - Associate degrees in Biology and Life Sciences from ABCC will be our example program area for this presentation.



Maria's Cost of Attendance:

CBM001 IPEDS

Semester (Year / 2)	Tuition & Fees and Books & Supplies	Room & Board and Other Expenses	Full Time	Cost of Attendance
Fall 2010	$ 2,600	$ 3,200	1	$ 5,800
Spring 2011	$ 2,600	$ 3,200	.5	$ 2,900
Fall 2011	$ 3,200	$ 3,400	1	$ 6,600
Spring 2012	$ 3,200	$ 3,400	1	$ 6,600
Fall 2012	$ 3,550	$ 3,500	1	$ 7,050
Spring 2013	$ 3,550	$ 3,500	1	$ 7,050
				$ 36,000

Maria's Financial Aid:

FADS

Academic Years	Federal, state, local, institutional grants or other aid
AY 2010-11	$ 3,250
AY 2011-12	$ 3,550
AY 2012-13	$ 5,200
	$ 12,000

$36,000 – $12,000 = $24,000

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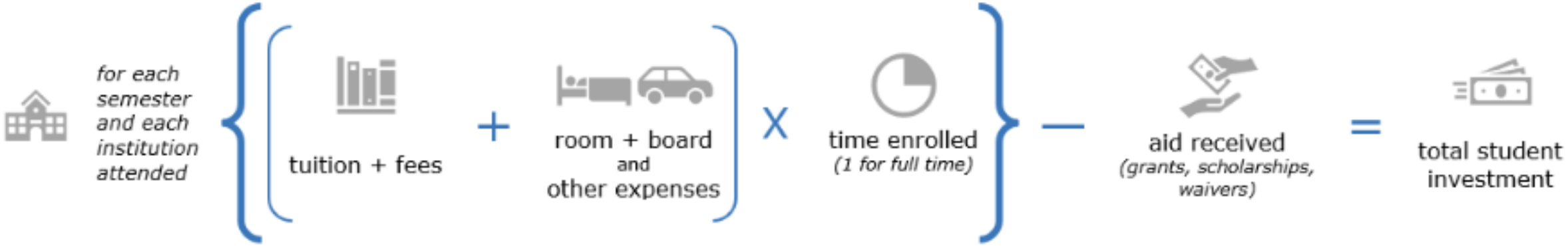
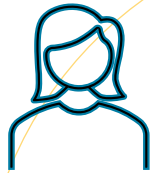
Note: COA data are based on IPEDS



Average Student Investment by Institution and Program: Associate in Biology and Life Sciences at ABCC

Student	Net Cost of Attendance	Financial Aid	Student Investment
Maria	$ 36,000	$ 12,000	$ 24,000
Harry	$ 40,000	$ 10,000	$ 30,000
Paul	$ 30,000	$ 15,000	$ 15,000
Cynthia	$ 25,000	$ 5,000	$ 20,000
Average Student Investment by Institution/Program			$ 22,250



Maria and all other associate in Biology and life sciences graduates at ABCC in the baseline cohort will have a **total student investment of $22,250**

Note: COA data are based on IPEDS

Credentials of Value:
Achieving Positive Return on Investment

INVESTMENT

TOTAL STUDENT INVESTMENT

+

OPPORTUNITY COST

Opportunity Cost *(foregone wages)*

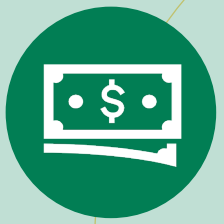
+

COMPARISON WAGE

Base Comparison Wage

≤

CUMULATIVE EARNINGS



CUMULATIVE EARNINGS

Credentials of Value:
Opportunity Cost

[potential earnings] - [earnings while enrolled] = opportunity cost

- Defined as the **potential earnings** a graduate could have earned **during the time they were enrolled**
- **Median annual wage for Texas high school graduates ages 22 -40** for each year enrolled
  - American Community Survey (ACS) data
- For the **baseline**, we use **program design** time to degree
  - Certificates: 1 year, Associates: 2 years, Bachelors: 4 years
- Subtract earnings while enrolled from potential earnings
  - TWC UI Wage data

Credentials of Value: Opportunity Costs

Maria was enrolled from 2010-2013. So, we look for wages Maria earned during those years

Maria's yearly wages while enrolled:

Year	Wages Earned
2010	$ 5,000
2011	$ 2,000
2012	$ 7,000
2013	$ 5,000

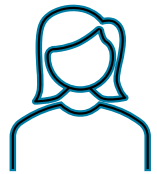
Median wages while enrolled: $ 5,000

[*Median Annual Earnings while enrolled* $5,000 **X** *Actual Years Enrolled* 3 Years] = *Earnings While Enrolled* $15,000

Maria's potential earnings:

[*Median Annual HS Grad Wage* $26,184 **X** *Program Design Time to Degree* 2 years] = $52,368

[potential earnings] - [earnings while enrolled] = opportunity cost

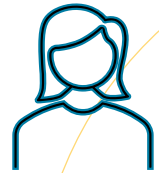


$52,368 – $15,000 = $37,368

Credentials of Value: Opportunity Costs

Average opportunity cost by Institution and Program: Associates in Biology at ABCC

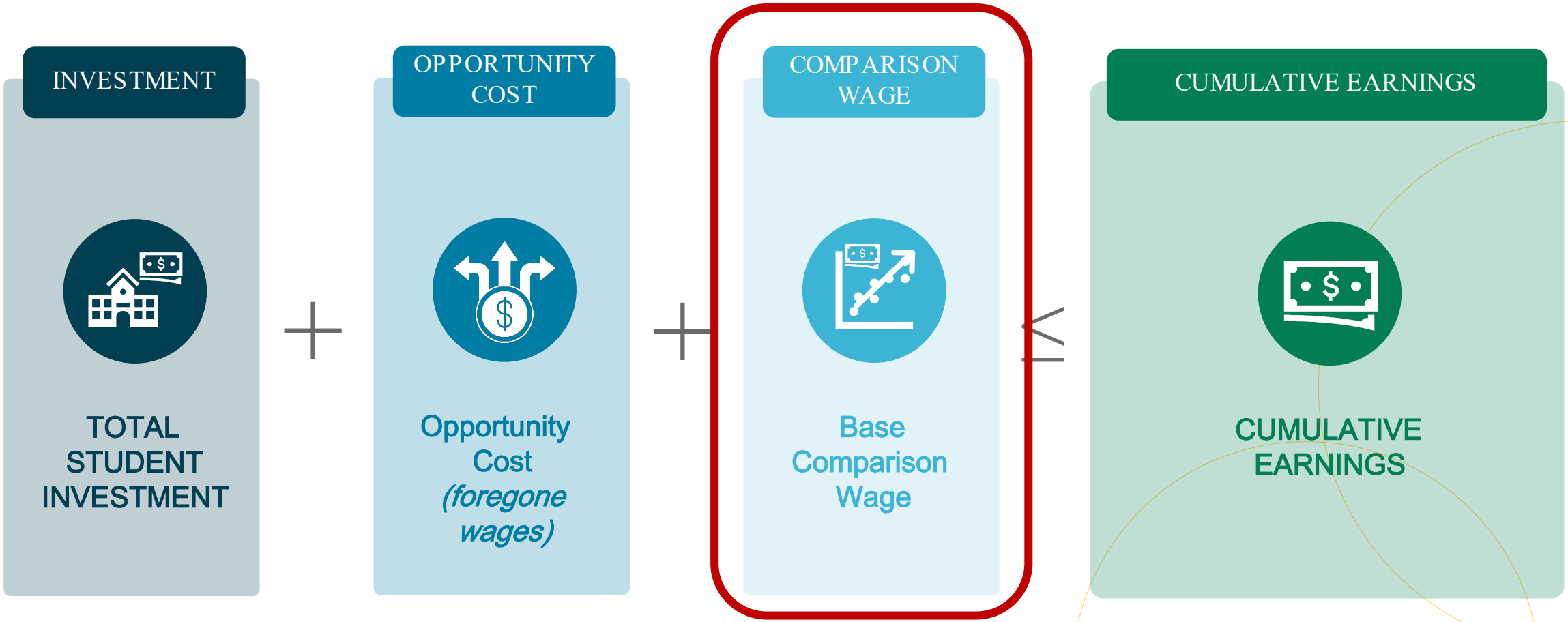
Student	Potential Earnings	Earnings while enrolled	Opportunity Cost
Maria	$ 52,368	$ 15,000	$ 37,368
Harry	$ 52,368	$ 20,000	$ 32,368
Paul	$ 52,368	$ 8,000	$ 44,368
Cynthia	$ 52,368	$ 25,000	$ 27,368
Average Opportunity Cost by Institution/Program			$ 35,368



Maria and all other associate in Biology and life sciences graduates at ABCC in the baseline cohort will have an **opportunity cost of $35,368**

Note: COA data are based on IPEDS

Credentials of Value:
Achieving Positive Return on Investment



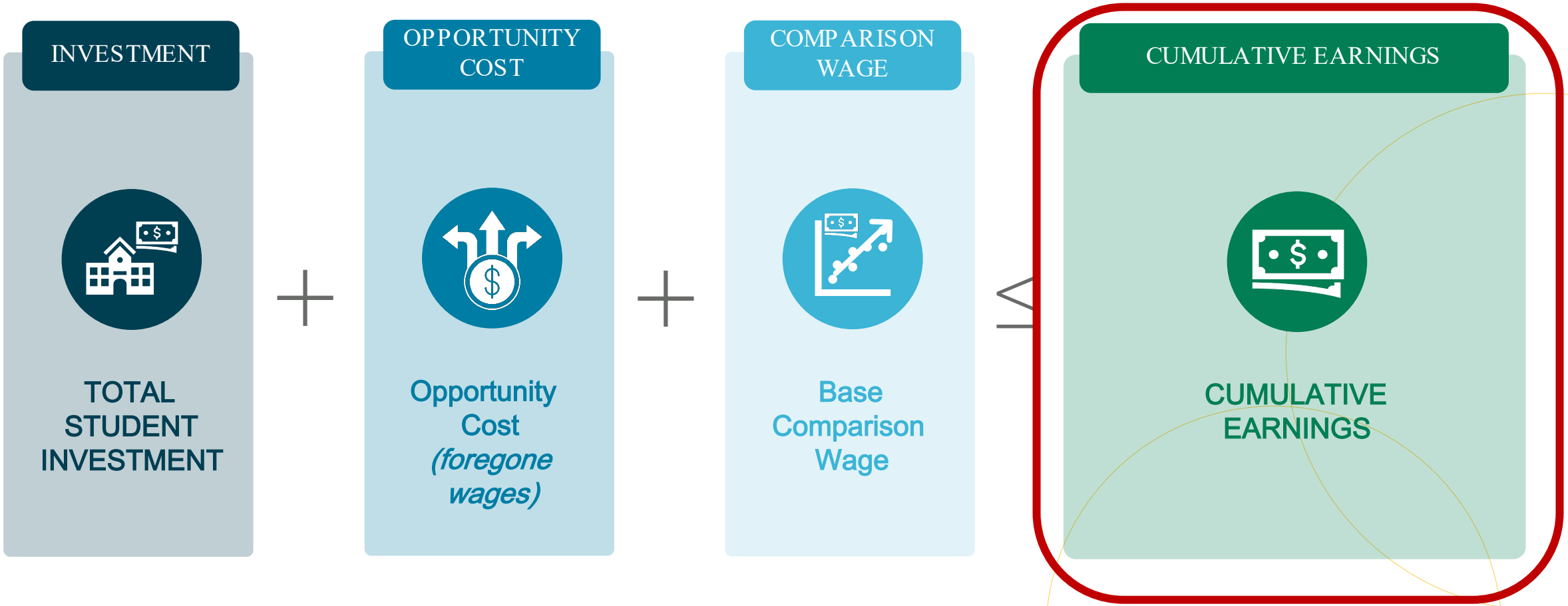
Credentials of Value:
Base Comparison Wage

Median Annual HS Grad Wage		*Years since Postsecondary Graduation*
$26,184	X	10 years

- How much we **expect a person to make if they did not receive postsecondary credential**
  - Cumulative amount a HS grad is expected to make **over 10 years**
- **Median annual wage for Texas high school graduates ages 22 -40** for each year enrolled
  - American Community Survey (ACS) data
- Base comparison wage is the same for everyone for each year

Cumulative Median Annual High School Wage (Base Comparison Wage)									
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
$26,184	$52,368	$78,552	$104,736	$130,920	$157,104	$183,288	$209,472	$235,656	$261,840

Credentials of Value:
Achieving Positive Return on Investment



Credentials of Value:
Annual Cumulative Earnings

- Annual earnings each year for 10 years following completion of program. Wages are matched to each student by SSN using TWC wage records.

Maria's annual wages each year for 10 years after graduating

Maria	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Annual Earnings	$40,000	$45,000	$48,000	$50,000	$55,000	$60,000	$65,000	$68,000	$70,000	$75,000
Cumulative Annual Earnings	$40,000	$85,000	$133,000	$183,000	$238,000	$298,000	$363,000	$431,000	$501,000	$576,000

Credentials of Value:
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INVESTMENT

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Opportunity Cost *(foregone wages)*

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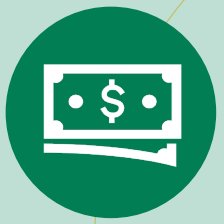
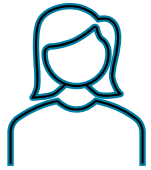
CUMULATIVE EARNINGS



CUMULATIVE EARNINGS

Example:
Where does Maria breakeven?



Maria's data for 10 years post-graduation: where does she breakeven?

	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
Total Student Investment	$ 22,250	$ 22,250	$ 22,250	$ 22,250	$ 22,250	$ 22,250	$ 22,250	$ 22,250	$ 22,250	$ 22,250
Opportunity cost										
Base comparison wage										
Total Cost* (Total Student Investment + Opportunity Cost + Base Wage Comparison)										
Cumulative wages										
Breakeven?										

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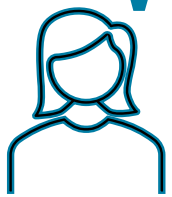
Where does Maria breakeven?



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Total Cost* (Total Student Investment + Opportunity Cost + Base Wage Comparison)	$85,802	$111,986	$138,170	$164,354	$190,538	$216,722	$242,906	$269,090	$295,274	$321,458
Cumulative wages										
Breakeven?										

Example:
Where does Maria breakeven?

The first year where Total Cost* <= Cumulative Wages

*total cost is the sum of total student investment, opportunity cost, and base comparison wage

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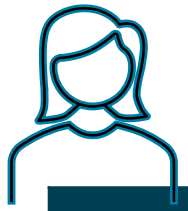

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Breakeven?	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Determining Credential of Value

Associates Degree in Biology is offered at 5 community colleges in Texas

ABCC	CC2	CC3	CC4	CC5
				
50 graduates	150 graduates	50 graduates	100 graduates	50 graduates
Student investment: $22,250 Opportunity Cost: $35,368	Student investment: $25,000 Opportunity Cost: $32,000	Student investment: $36,200 Opportunity Cost: $31,390	Student investment: $20,000 Opportunity Cost: $38,000	Student investment: $28,000 Opportunity Cost: $34,000

- 400 Total graduates in the state of Texas are in our 10 year cohort
- The process used to find where Maria breaks even is used for all 400 students, using their institution/program's average student investment and opportunity cost
- An Associates in Biology is a Credential of Value if at least 200 graduates total 'breakeven' within 10 years of graduating

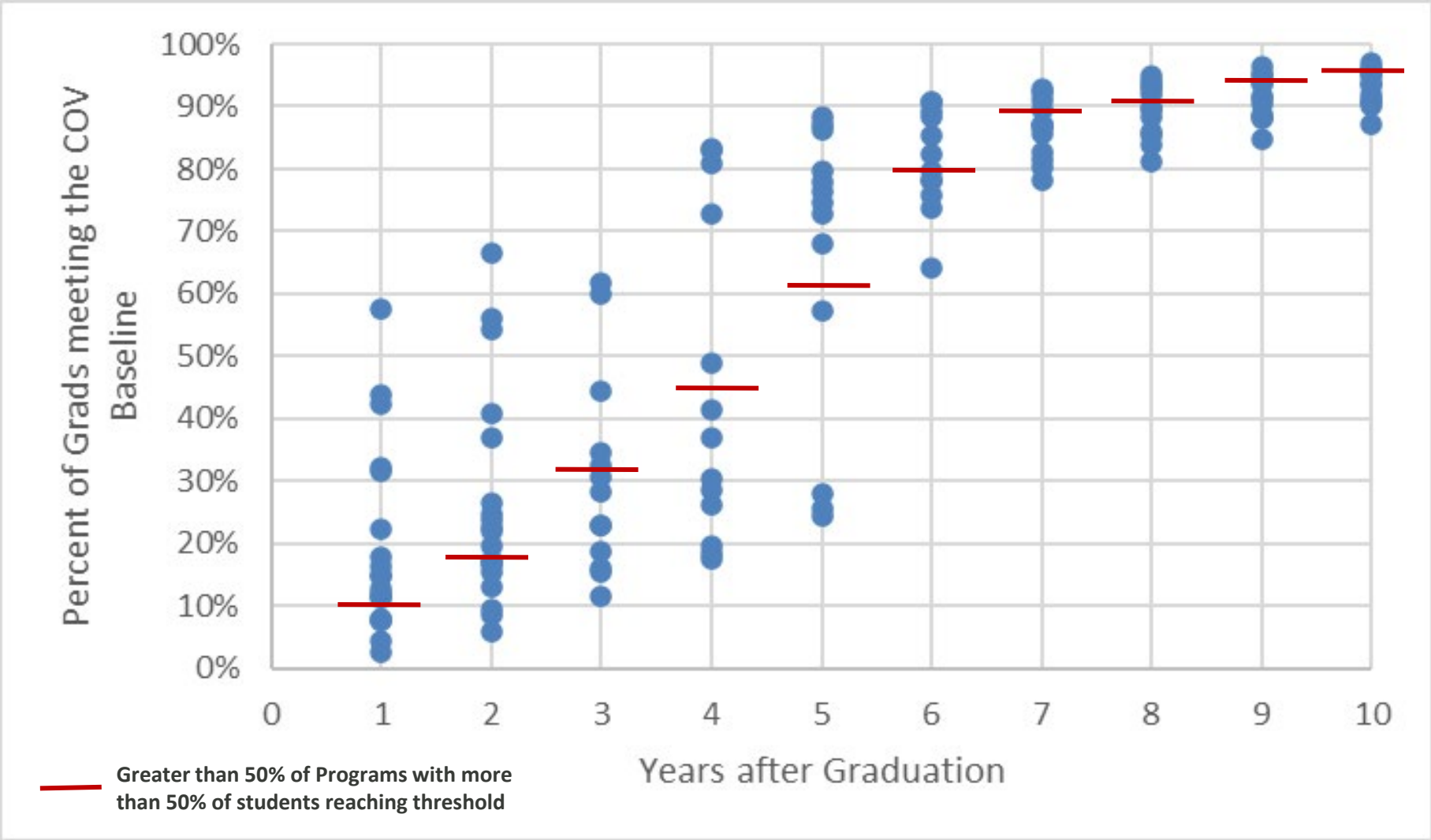
Is an AA in Biology a Credential of Value?

Number of years since graduating	1	2	3	4	5	6	7	8	9	10
Total Students (statewide)	400	400	400	400	400	400	400	400	400	400
Students meeting threshold	15	20	50	90	250	280	300	310	340	380
Percentage	3.75%	5%	12.5%	22.5%	62.5%	70%	75%	77.5%	85%	95%
COV Baseline	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes

Premium

Credentials of Value

Credentials of Value Premium
Determining Target Years



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Credentials of Value:
Key Differences

	Baseline CoV	Premium CoV
Cohort	10-year cohort (back to 2008)	Most recent graduate cohort
Cost of Attendance	Uses average by program, level, and institution	Uses individual
Opportunity Cost	Uses program design	Uses real time to degree
Cumulative Wages	Uses data from baseline cohort	Uses projected wage from baseline cohort

Premium cohort

- **Graduates Included**：
  - Students who receive their undergraduate credentials (i.e., Baccalaureate, Associate, or Certificate) from either Texas public 2-year or 4-year institutions
- **Graduates Excluded**：
  - Students who receive their credentials at Texas private institutions
  - Students who transferred from out-of-state institutions to Texas institutions
  - Students who do not have an FTIC record
  - Students who previously earned a degree of the same level or higher

Credentials of Value:
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COMPARISON WAGE

Base Comparison Wage

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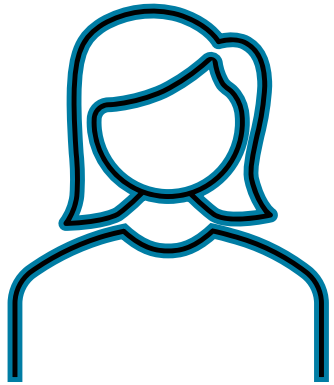
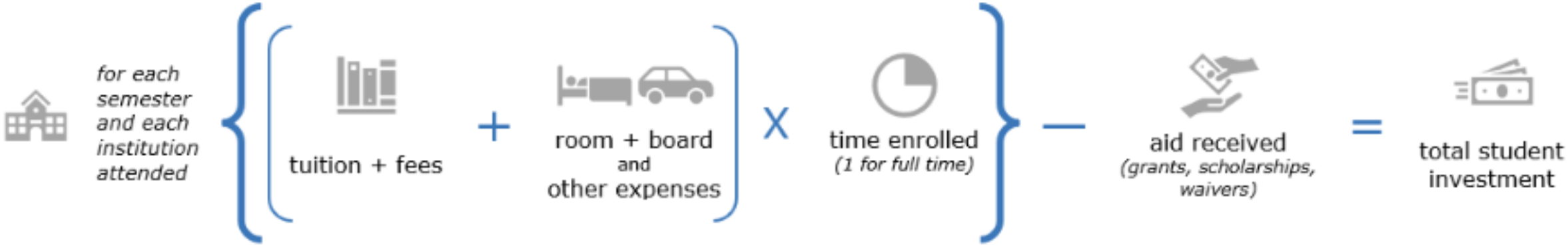
PROJECTED CUMULATIVE EARNINGS

PROJECTED CUMULATIVE EARNINGS

Meet Alex



- Alex graduated with an Associate degree in **Biology** from Above and Beyond Community College (ABCC).
- He took four years to complete his degree.
- He started his program in fall 2019 and graduated in May 2023.
- Biology (26.0101) is in the Biology and Life Sciences Program Area.
    - Associate degrees in Biology and Life Sciences from ABCC will be our example program area for this presentation.



Alex's Cost of Attendance:

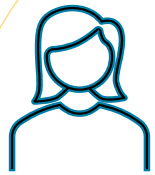
CBM001 IPEDS

Semester (Year / 2)	Tuition & Fees and Books & Supplies	Room & Board and Other Expenses	Full Time	Cost of Attendance
Fall 2019	$ 3,600	$ 3,200	1	$ 6,800
Spring 2020	$ 3,600	$ 3,200	1	$ 6,800
Fall 2020	$ 4,200	$ 3,500	1	$ 7,700
Spring 2021	$ 4,200	$ 3,500	1	$ 7,700
Fall 2021	$ 4,500	$ 4,000	1	$ 8,500
Spring 2022	$ 4,500	$ 4,000	1	$ 8,500
Fall 2022	$ 4,750	$ 4,250	1	$ 9,000
Spring 2023	$ 4,750	$ 4,250	1	$ 9,000
				$ 64,000

Alex's Financial Aid:

FADS

Academic Years	Federal, state, local, institutional grants or other aid
AY 2019-20	$ 6,250
AY 2020 -21	$ 7,550
AY 2021-22	$ 7,200
AY 2022 -23	$ 8,000
	$ 29,000



$64,000 – $29,000 = $35,000

Credentials of Value: Opportunity Cost

Alex was enrolled from 2019-2023. So, we look for wages Alex earned during those years

Alex's yearly wages while enrolled:

Year	Wages Earned
2019	$ 15,000
2020	$ 18,000
2021	$ 17,000
2022	$ 20,000
2023	$ 21,000

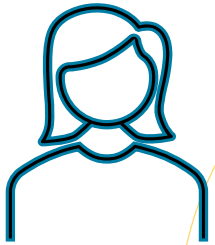
Median wages while enrolled: $ 18,000

Median Annual Earnings while enrolled $18,000 X *Years Enrolled* 4 Years = *Earnings While Enrolled* $72,000

Alex's potential earnings:

[*Median Annual HS Grad Wage* $26,184 X *Real Time to Degree* 4 years] = $104,736

[potential earnings] - [earnings while enrolled] = opportunity cost



$104,736 – $72,000 = $32,736

Credentials of Value:
Base Comparison Wage

Median Annual HS Grad Wage		*Years since Postsecondary Graduation*
$26,184	X	5 years

- How much we **expect a person to make if they did not receive postsecondary credential**
- Cumulative amount a HS grad is expected to make **over 10 years**
- Alex needs to break even by year 5 to get the premium, so we will use the year 5 comparison wage

Cumulative Median Annual High School Wage (Base Comparison Wage)									
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
$26,184	$52,368	$78,552	$104,736	$130,920	$157,104	$183,288	$209,472	$235,656	$261,840

Credentials of Value:
Calculating Projected Cumulative Earnings

Maria and friends' annual wages each year for 10 years after graduating

Maria	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Annual Earnings	$40,000	$45,000	$48,000	$50,000	$55,000	$60,000	$65,000	$68,000	$70,000	$75,000

Harry	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Annual Earnings	$30,000	$42,000	$48,000	$53,333	$45,000	$50,000	$70,000	$74,000	$74,000	$75,000

Paul	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Annual Earnings	$45,000	$45,000	$46,000	$50,000	$55,000	$60,000	$67,000	$70,000	$60,000	$62,000

Cynthia	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Annual Earnings	$50,000	$55,000	$55,000	$60,000	$65,000	$65,000	$66,000	$68,000	$72,000	$77,000

Average by Year	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Annual Earnings	$41,250	$46,750	$49,250	$53,333	$55,000	$58,750	$67,000	$70,000	$69,000	$72,250

Credentials of Value:
Calculating Projected Cumulative Earnings

Average cumulative wages for ABCC Biology Associate Degree Graduates

Average by Year	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Annual Earnings	$41,250	$46,750	$49,250	$53,333	$55,000	$58,750	$67,000	$70,000	$69,000	$72,250
Cumulative Annual Earnings	$41,250	$88,000	$137,250	$190,583	$245,583	$304,333	$371,333	$441,333	$510,333	$582,583

Credentials of Value:
Achieving Positive Return on Investment

INVESTMENT

TOTAL STUDENT INVESTMENT

+

OPPORTUNITY COST

Opportunity Cost *(foregone wages)*

+

COMPARISON WAGE

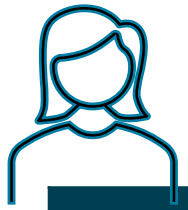
Base Comparison Wage

≤

CUMULATIVE EARNINGS

PROJECTED CUMULATIVE EARNINGS

Example:
Does Alex earn the premium?



Total Cost* <= Cumulative Wages on or before year 5

*total cost is the sum of total student investment, opportunity cost, and base comparison wage

	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Total Student Investment	$ 35,000	$ 35,000	$ 35,000	$ 35,000	$ 35,000	$ 35,000	$ 35,000	$ 35,000	$ 35,000	$ 35,000
Opportunity cost	$32,736	$32,736	$32,736	$32,736	$32,736	$32,736	$32,736	$32,736	$32,736	$32,736
Base comparison wage	$26,184	$52,368	$78,552	$104,736	$130,920	$157,104	$183,288	$209,472	$235,656	$261,840
Total Cost* (Total Student Investment + Opportunity Cost + Base Wage Comparison)	$93,920	$120,104	$146,288	$172,472	$216,656	$224,840	$251,024	$277,208	$303,392	$329,576
Projected Cumulative wages	$41,250	$88,000	$137,250	$190,583	$245,583	$304,333	$371,333	$441,333	$510,333	$582,583
Breakeven?	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Credentials of Value:

Program Area Target Years:

2 Year Institutions

Degree Type	Program Area	Threshold Year
Associate	Agriculture and natural resources	5
Associate	Architecture and engineering	2
Associate	Arts	6
Associate	Biology and life sciences	5
Associate	Business	2
Associate	Communications and journalism	5
Associate	Computers, statistics, and mathematics	4
Associate	Education	4
Associate	Health	1
Associate	Humanities and liberal arts	4
Associate	Industrial arts, consumer services, and recreation	4
Associate	Legal services, public policy, and social work	1
Associate	Other	3
Associate	Physical sciences	2
Associate	Psychology	4
Associate	Social sciences	3
Bachelor's	Architecture and engineering	1
Bachelor's	Business	1
Bachelor's	Computers, statistics, and mathematics	**
Bachelor's	Education	**
Bachelor's	Health	1

**Indicates a program in which we do not have sufficient data to determine a threshold year

Credentials of Value:

Program Area Target Years:

2 Year Institutions

Degree Type	Program Area	Threshold Year
Certificate	Agriculture and natural resources	2
Certificate	Architecture and engineering	1
Certificate	Arts	3
Certificate	Business	1
Certificate	Communications and journalism	1
Certificate	Computers, statistics, and mathematics	1
Certificate	Education	2
Certificate	Health	1
Certificate	Humanities and liberal arts	1
Certificate	Industrial arts, consumer services, and recreation	1
Certificate	Legal services, public policy, and social work	1
Certificate	Other	1
Certificate	Physical sciences	1
Certificate	Social sciences	1
Certificate	Agriculture and natural resources	2
Certificate	Architecture and engineering	1
Certificate	Arts	3
Certificate	Business	1
Certificate	Communications and journalism	1
Certificate	Computers, statistics, and mathematics	1
Certificate	Education	2

**Indicates a program in which we do not have sufficient data to determine a threshold year

How can institutions replicate the above data?

- CBM and FADs for your institution
  - IPEDS, ACS are publicly available for download
- Texas CREWS can be used to estimate:
  - Median wages over time by institution type, institution, or 4 digit CIP
- Accountability can be used to estimate:
  - Student loan debt for an institution
  - Time to degree (to estimate cost of attendance)

THECB Data Resources

Enrollment, Graduation, Persistence

- Texas Higher Ed Data Site (THED) http://www.txhighereddata.org/
- Accountability - http://www.txhigheredaccountability.org/AcctPublic/
- Almanac - https://databridge.highered.texas.gov/almanac/

Wage Outcomes

- Texas CREWS https://txcrews.org/
- American Community Survey - https://www.census.gov/programs-surveys/acs

Tuition and Fees

- IPEDS - https://nces.ed.gov/ipeds

Scan the QR code to complete the session survey.

Texas Association for Institutional Research

Annual Conference: February 25-28, 2025
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