



Make a statistically significant difference in education.

The Value Proposition of CTE for GTC Grads

Greenville Technical College

Elizabeth Varga



THE SPARK

GTC is an open-admissions college with a mission to transform lives.

- Lots of great stories!
- But, wait. What is known about that *quantitatively*?
- Do GTC graduates get good* jobs?
- Are programs of study really aligned with the labor market?
- Is there data to show that is happening?

SO. MANY. QUESTIONS.



THE OPPORTUNITY

SDP Postsecondary CTE Fellowship – GTC was in the 2020 cohort.

Sponsored by the ECMC Foundation, the fellowship is coordinated through the **Center for Educational Policy Research at Harvard University**.

This year-long SDP-CTE ECMCF fellowship program provided Elizabeth with tools, training, resources, and access to the SDP and ECMCF networks to build her institution's data capacity and execute this key analytic project.

POLL QUESTION 1.

My institution tracks the labor market outcomes of our graduates.

- Yes
- No
- I don't know

POLL QUESTION 2.

Our tracking includes:

- A. Wages
- B. Placement rates
- C. Both of the above



THE CASE STUDY

Observational, retrospective

Examined three years of flat files (enrollment, placement, earnings)

Descriptive statistics*

Looked for patterns by:

- College school/division
- Program of study/major
- Credential type (Associate, Diploma, Certificate)
- Equity gaps – still exploring data



OUR DATA SOURCES

Instrument	Data points
GTC Dashboard	Enrollment
GTC Graduate Follow-Up Surveys	Credential, Major, Gender, Race
United Way, Self-Sufficiency Standard for SC 2020	Self-Sufficiency Wage by County
SC Department of Employment & Workforce	Employer County Employer NAICS Code Wage Range by Quarter (for individuals) Quarters of Coverage Aggregate <u>Average</u> Quarterly Earnings*

Greenville Technical College 2020

Founded	1962
Credit Headcount	10,526
Female	61%
Pell recipients	54%
Part-time students	58%
White	60%
Black	19%
Hispanic	11%
Fields of study	≈ 62
Campus locations	9





AVAILABLE GRADUATE WAGE DATA

- **From 2018 - 2020, GTC received matches for 76% of graduates from credit-based programs.**
- Non-credit completers are not in SCDEW E-Track system
- Wage data:
 - At the program level: Aggregate AVERAGE Quarterly Wages
 - At the student level: Wage ranges per quarter
- Does include some out-of-state data
- On the other hand – names the county, but not the state*



AGGREGATE QUARTERLY WAGES

Some important pieces of data are missing.

Program Code	Number of Students Requested	Number of Students Employed	Percent Employed	Total Quarterly Wages	Average Quarterly Wages
AA.ART	162	98	60	477406	4871
AAS.ACC	23	16	69	134629	8414
AAS.AOT	21	16	76	104174	6511

SAMPLE: Aggregate Quarterly Wages, SC Department of Employment & Workforce



UNPACKING THE STUDENT-LEVEL FILE

It's sort of like Pandora's box. Who knows what's in there?

Program Code	Credential Type	CIP Code	County of Employment	NAICS Code	NAICS Title	Wage Range
AAS.ECE	AAS	190708	Greenville	624410	Child and Day Care Services	4,800 – 7,300
AAS.RES	AAS	510908	STATEWIDE	237990	Other Heavy & Civil Engineering Construction	19,800 – 22,300
AAS.RES	AAS	510908	STATEWIDE	622110	General Medical and Surgical Hospitals	18,900 – 21,400
AAS. NUR	AAS	513801	Cherokee	611110	Elementary and Secondary Schools	8,600 – 11,100
AAS.MEC	AAS	150499	STATEWIDE	541330	Engineering Services	10,400 – 13,000



WE HAVE SOME ISSUES.

Does this data include:

- Occupation? No.
- The individual's hourly or monthly wage rate? It does not.
- The number of hours the individual worked? No.
- Hire dates? Nope.
- Overtime pay? Not sure.
- Bonuses? Probably not.
- Employer names? Alas, no.
- Longitudinal wages? No.
- Include everyone? Not everyone.



EXCLUSIONS: UNEMPLOYMENT INSURANCE

Prior to the CARES Act, there was no UI coverage for:

- Self-employed individuals, including farmers and ag workers
- Religious organization employees
- Some employees of non-profit organizations*
- Independent contractors
- Gig economy workers
- Individuals in the Armed Forces

*NPOs with less than four employees

MORE ABOUT THOSE NAICS CODES

Example 1: Shows industry sector; not occupation

- A graduate earned an AAS in accounting, and now works for a retail organization. Is the student working in the business office? On the sales floor? In the stockroom? This impacts wages.

Example 2: Temporary and part-time work – or both

- A graduate has an AAS in Nursing and an AS. The graduate shows up as working out of field in a lower-wage industry like retail. Actually, the student is working towards a B.S.N. Wages seem depressed, but are not reflecting potential value of degree.

2022 EMPLOYMENT: TOP INDUSTRIES

Administrative and Support and Waste Management and...

Health Care and Social Assistance

Retail Trade

Government

Manufacturing

Professional, Scientific, and Technical Services

Accommodation and Food Services

Other Services (except Public Administration)

Construction

Finance and Insurance

Real Estate and Rental and Leasing

Wholesale Trade

Transportation and Warehousing

Educational Services

Management of Companies and Enterprises

Information

Arts, Entertainment, and Recreation

Agriculture, Forestry, Fishing and Hunting

Mining, Quarrying, and Oil and Gas Extraction

Utilities

44,019

36,174

34,923

33,922

30,960

28,306

26,124

21,178

20,912

19,332

17,500

14,513

11,762

9,579

7,476

6,544

6,304

1,452

356

310

So, all that info is just great, Elizabeth.

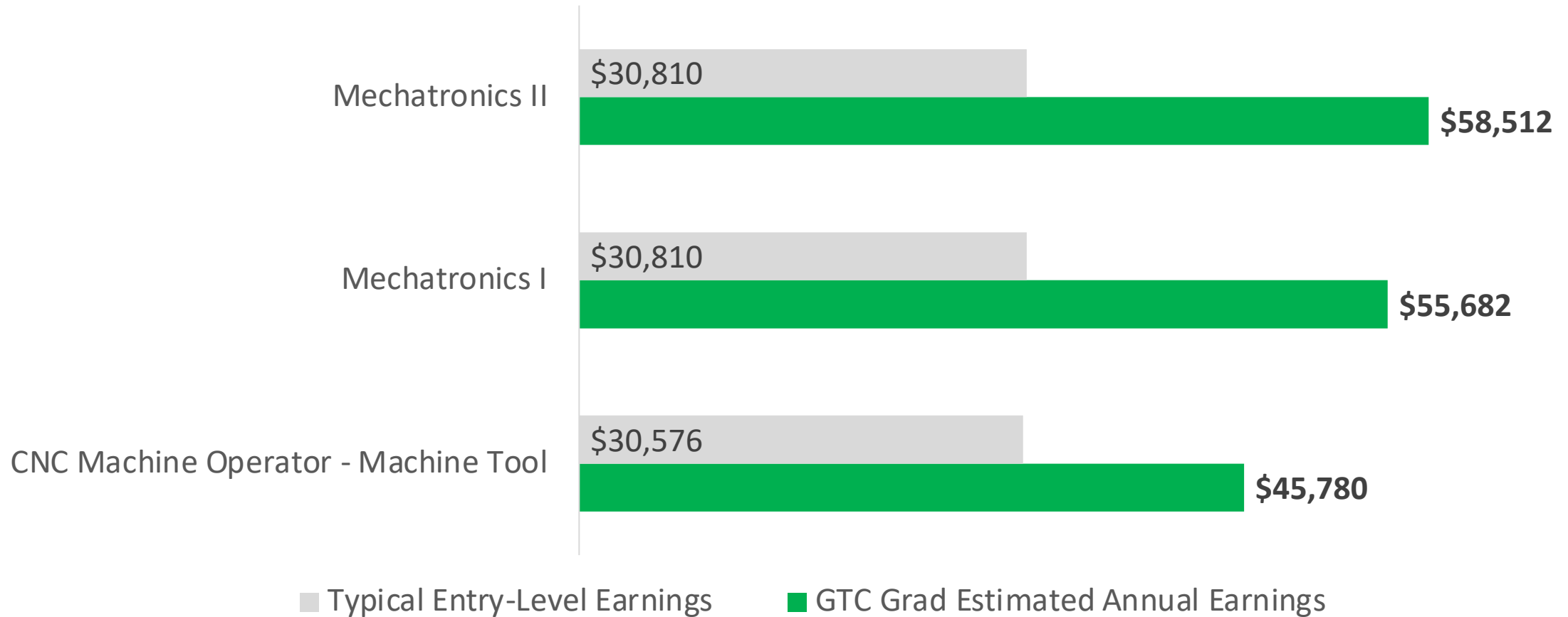
How about some of that earnings data you promised, eh?

JUST SHOW ME SOME MONEY!



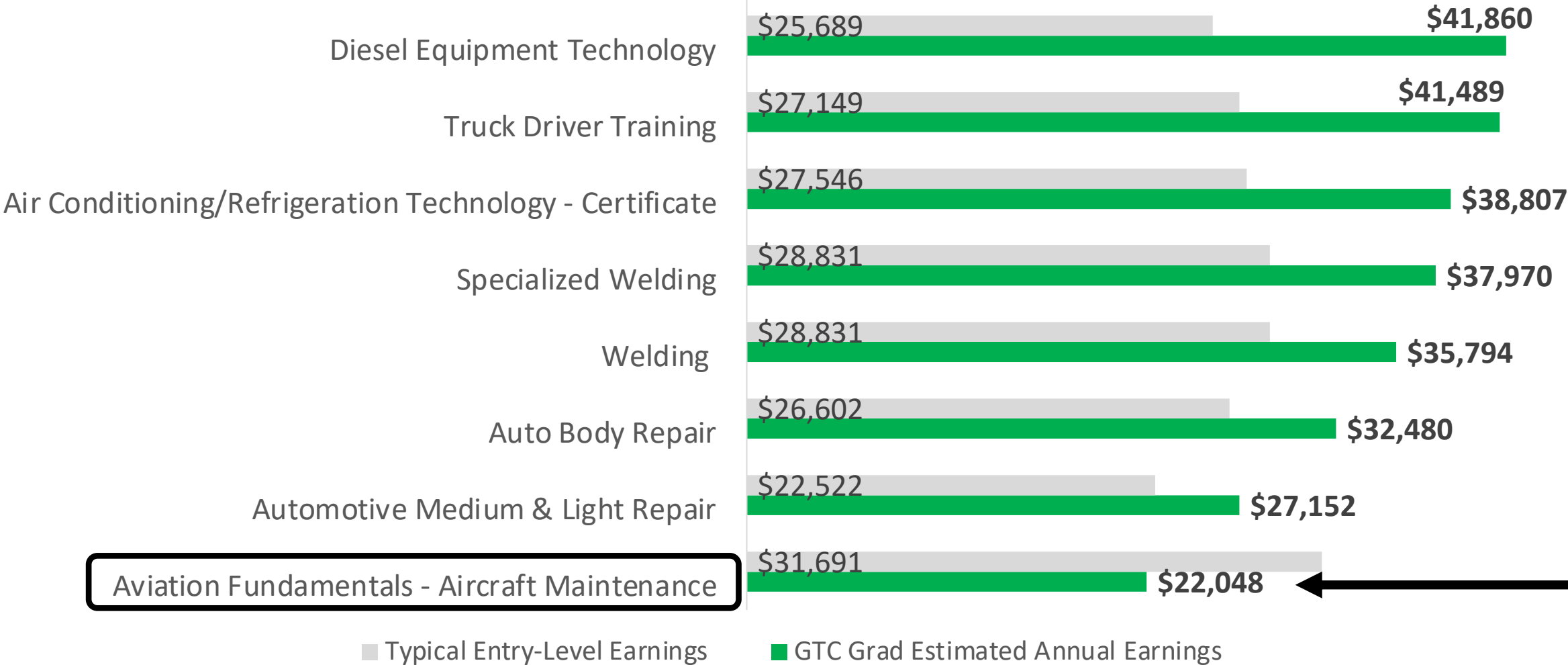
Example 1. Adv. Manufacturing Certificates

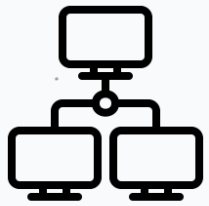
Earnings @ 1 year





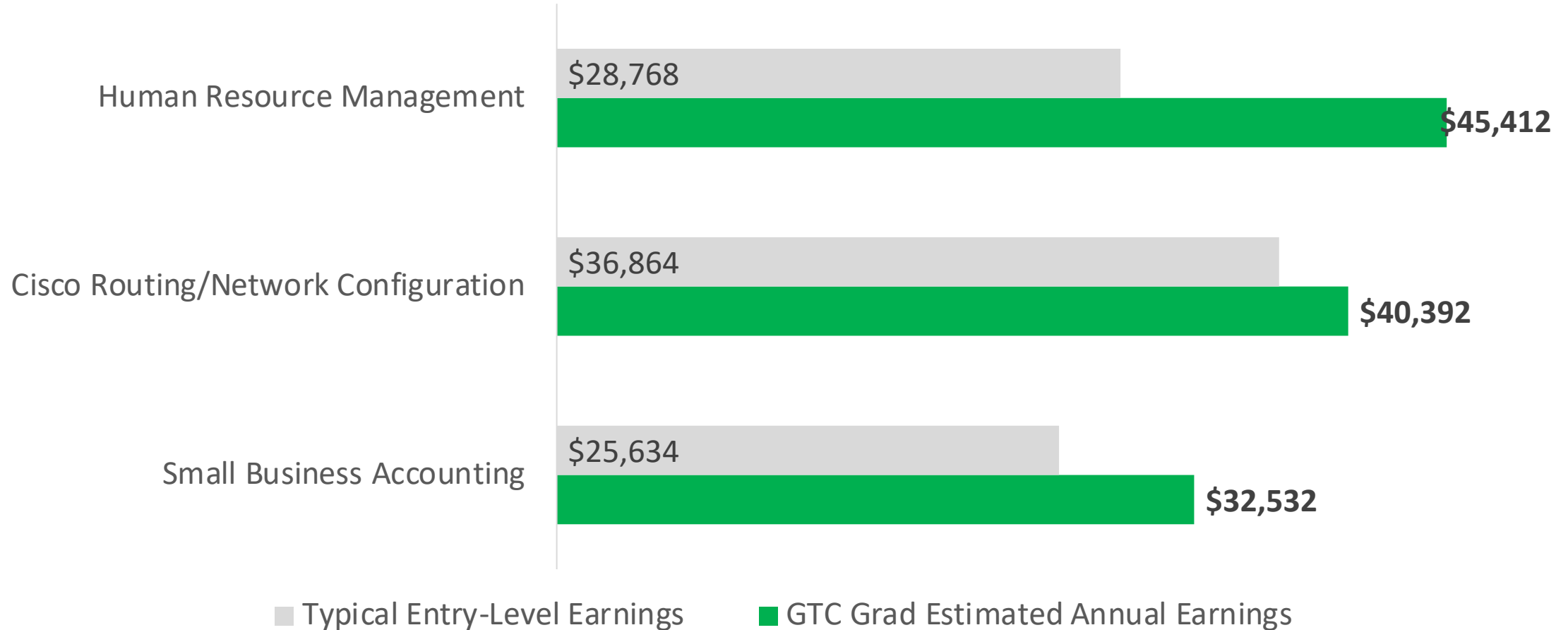
Example 2. Aviation, Construction, & Transp. Certificates Earnings @ 1 year

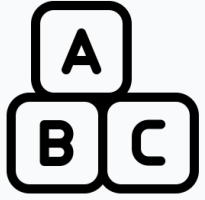




Example 3. Business & CPT Certificates

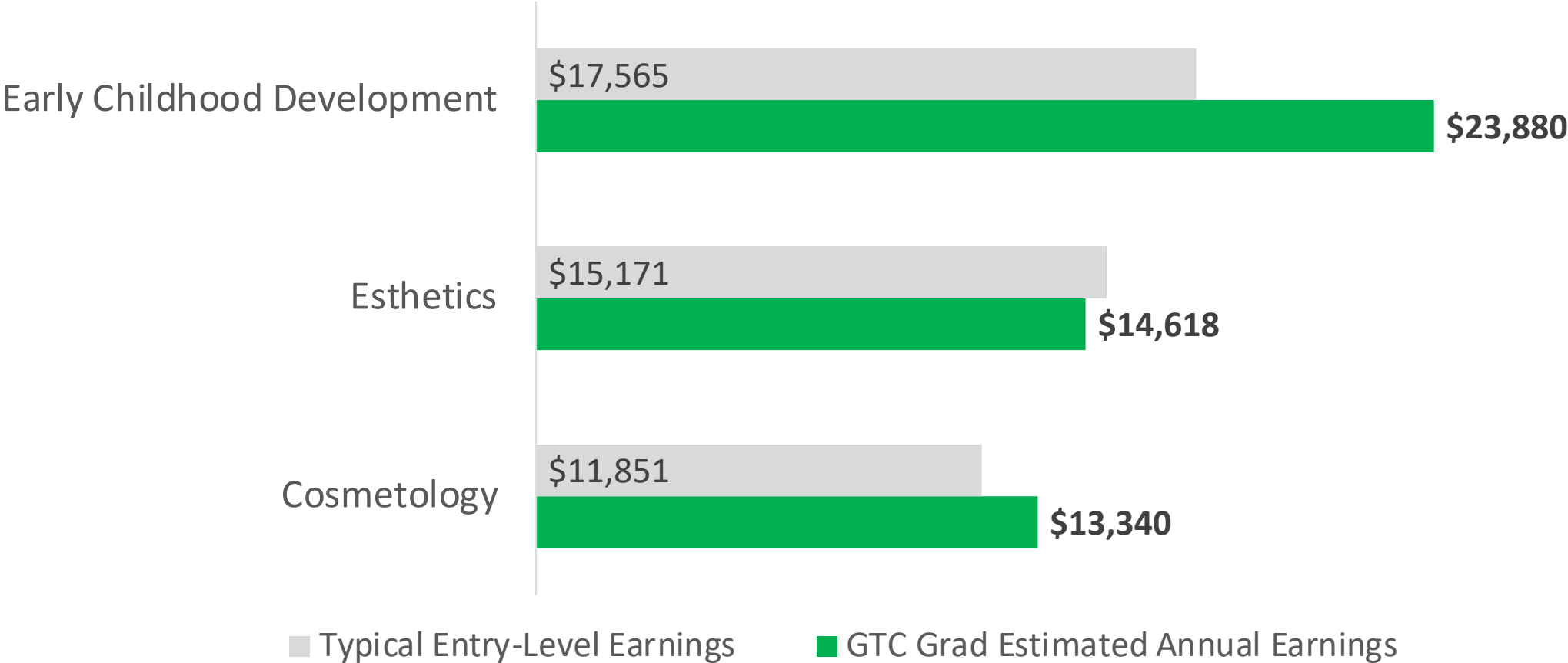
Earnings @ 1 Year





Example 4. Education & Prof. Service Certificates

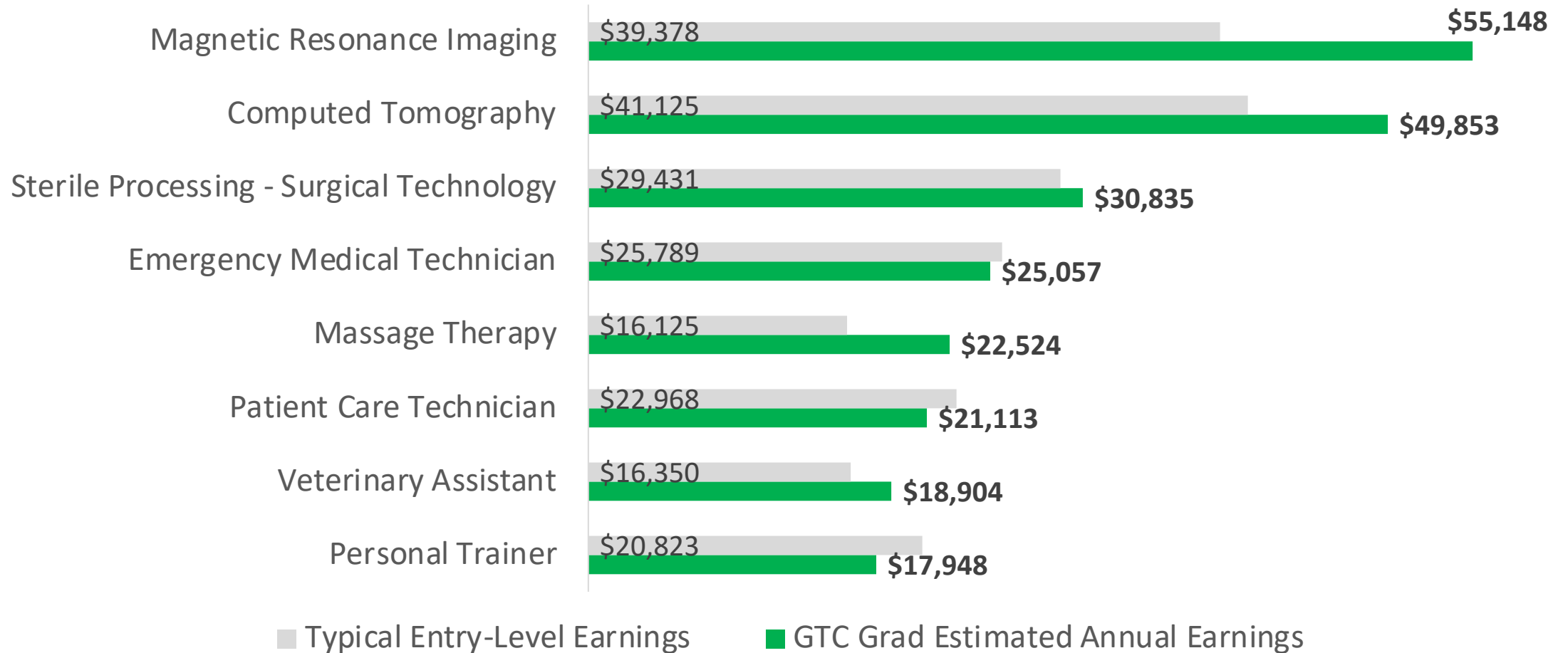
Earnings @ Year 1





Example 5. Health Science Certificates

Earnings @ 1 year



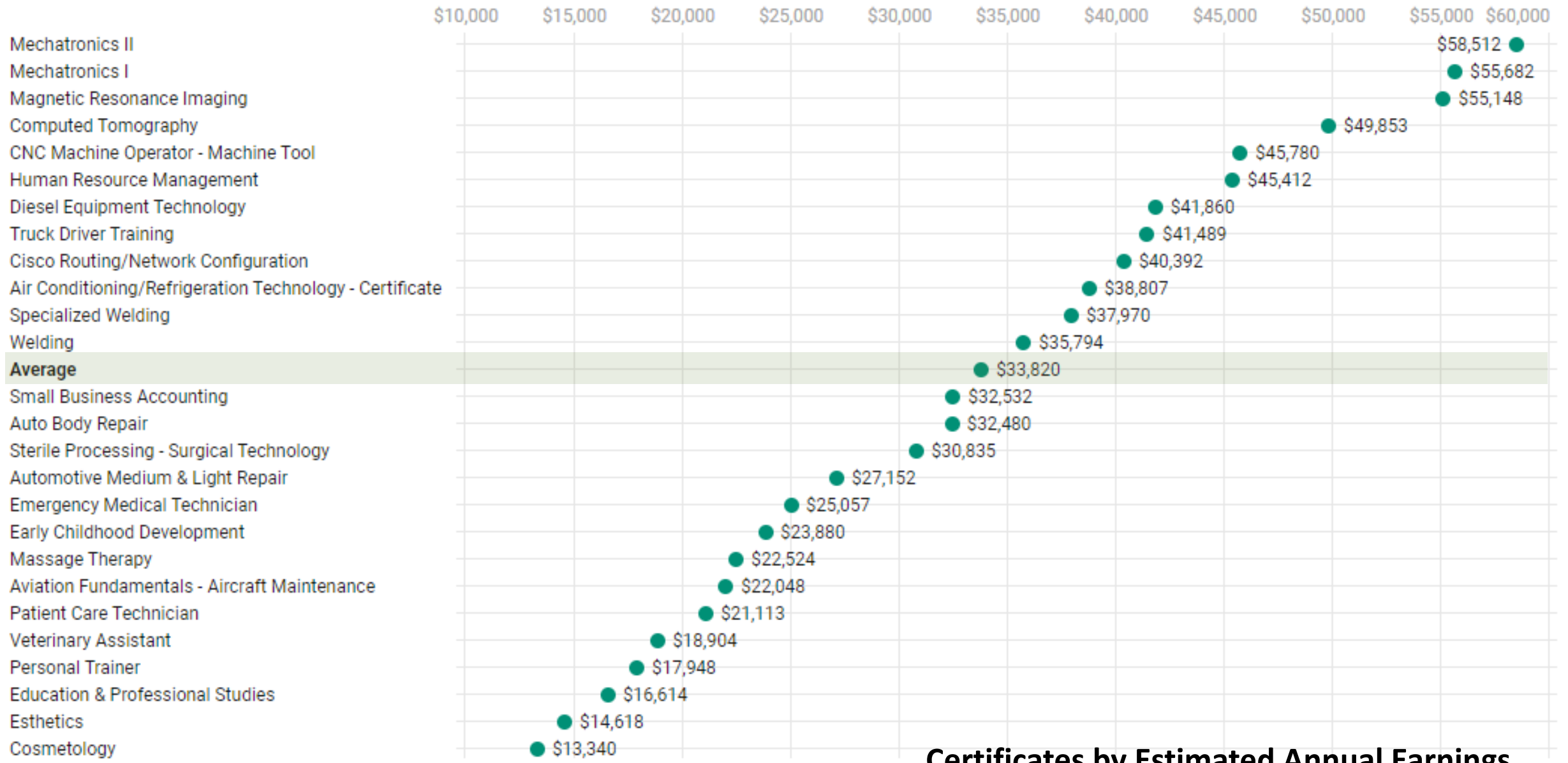
What is not captured in wage data?

BENEFITS

Example 1. CHILDCARE

- This benefit can REALLY add up!
- Typical infant care in Greenville County 2021: \$704/month
- \$704/month x 12 months = \$8,450

\$8,450 (childcare) + \$23,880 (salary) = \$32,330



**Certificates by Estimated Annual Earnings
One Year after graduation**

Chart: E. Varga, Greenville Technical College • Created with [Datawrapper](#)

POLL QUESTION 3.

• *Does your institution “bundle” job placement with “additional education”?*

A. Yes.

B. No.

C. Not sure.

ROI First Cut*: Methodology

BASIC METHOD

- Base: program level aggregate average earnings
- Looked at number of credit hours for each credential
- Calculated total tuition & fees based on total credit hours

NOT INCLUDED

- Does not include total cost of attendance
- Does not include cost of potential foregone wages
- Have not completed linear regression

ROI: Certificates & Diplomas - Estimated Average Earnings Per Credit Hour

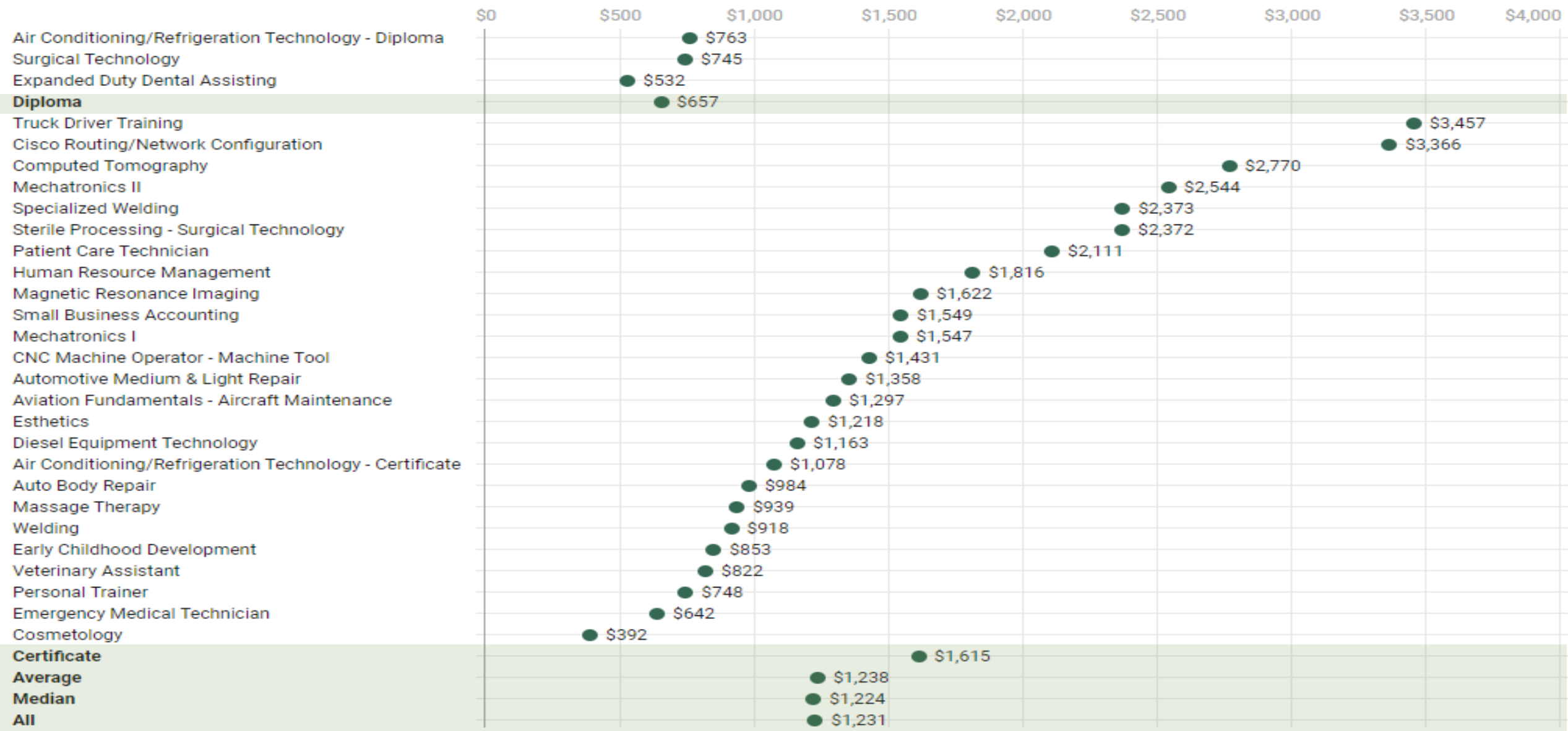


Chart: E. Varga, Greenville Technical College • [Get the data](#) • Created with [Datawrapper](#)

NEXT STEPS

- Discuss with Chief Academic Officer
- Explain limitations of data
- Work on developing cost per credit hour that captures TCA*
- Compare annual earnings to self-sufficiency & living wage benchmarks
- Continue to clean & refine sets
- Explore earnings for equity
- Explore longitudinal earnings data if possible
- Approach IR officers about developing wage data plan for the state system

*Total cost of attendance



RESEARCH OF INTEREST, 2020 - 2023

American Enterprise Institute

- [The American Opportunity Index](#)
- [The Partnership Imperative: Community Colleges, Employers, & America's Chronic Skills Gap](#)

Community College Research Center

- [How Much Are Community College Graduates Earning Two Years Later?](#)

Georgetown University Center on Education & the Workforce

- [Ranking ROI of 4,500 US Colleges and Universities](#)

Harvard University, The Project on Workforce

- [The Partnership Imperative: Community Colleges, Employers, & America's Chronic Skills Gap](#)

US Census Bureau

- [Postsecondary Education Outcome Explorer](#)

US Department of Education

- [College Scorecard](#)

WORKFORCE DATA QUALITY INITIATIVE

- Led by the US Department of Labor, Employment & Training Administration
- Go to WorkforceGPS to participate in the WDQI community
- Boundless resources, including sample data-sharing agreements
- Top resource: [Putting Data to Work: A Guide to Building Longitudinal Data Systems from a Workforce Perspective](#)

POLL QUESTION 4.

Does your institution have a data-sharing agreement with your state unemployment insurance or labor agency?

- A. Yes
- B. No
- C. Not sure

SELECTED PEERS TO FOLLOW

- [California Community Colleges Wage Tracker](#)
- [New Jersey Education to Earnings Data System](#)
- [Minnesota Graduate Employment Outcomes](#)
- [Research Institute at Dallas College](#)

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Thank You