



Aligning Learning with Livelihood: The Future Has Arrived



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LMI, All Day Everyday

11/22/24

The Case for Career AND Technical Education

- Central Minnesota's economy finally recovered this spring
 - Employers were still posting historically large numbers of openings as of 2023
- Labor force growth over the next decade is projected to be similar to the growth we had in the 2010's (+5.9%)
- College costs remain too high to use the experience as a career exploration activity
- Students gain the skills and experiences that allow them to earn higher wages
- Students overwhelmingly are interested in what people do on the job

Figure 2. Openings for Total, All Occupations in Central Minnesota

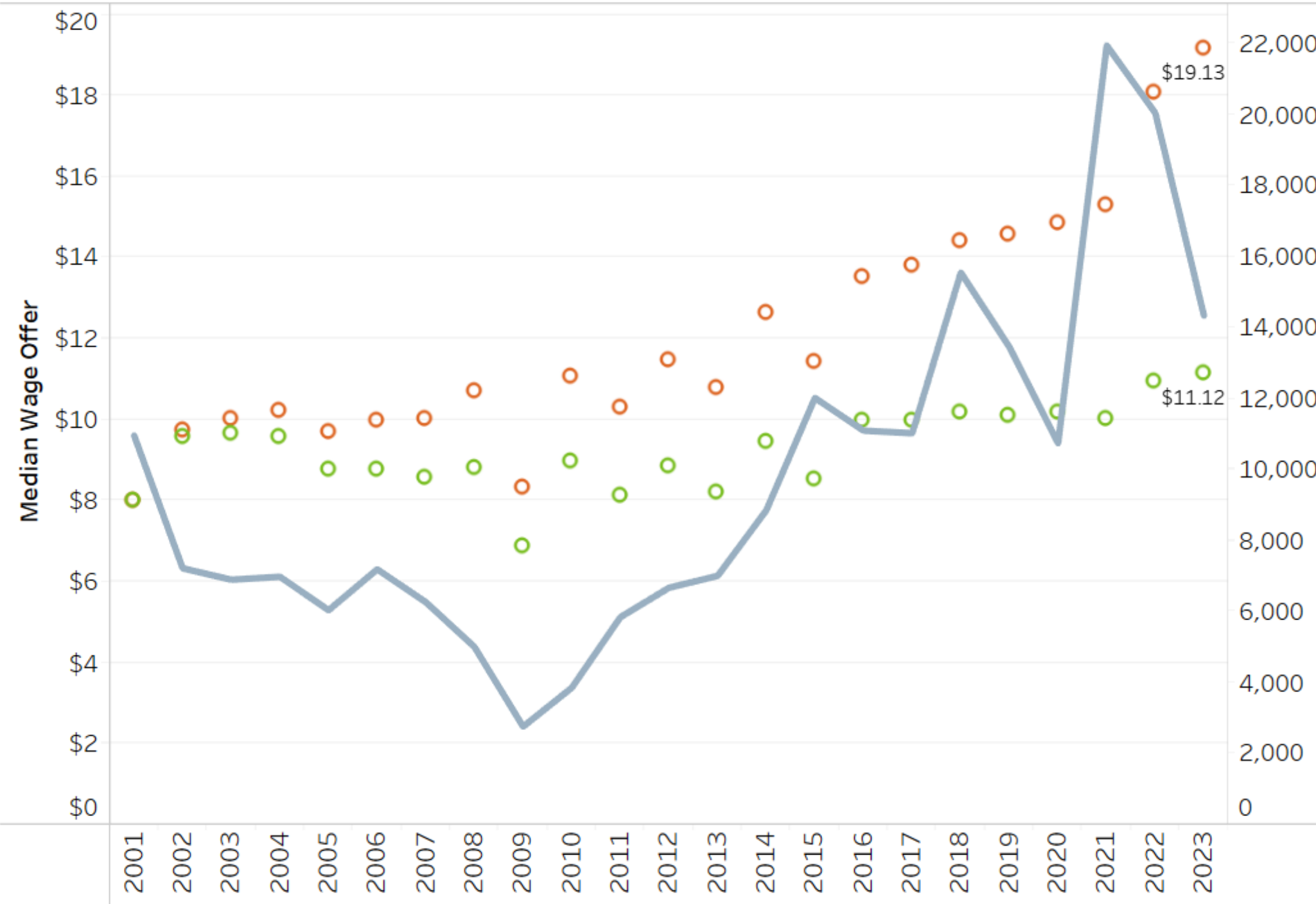
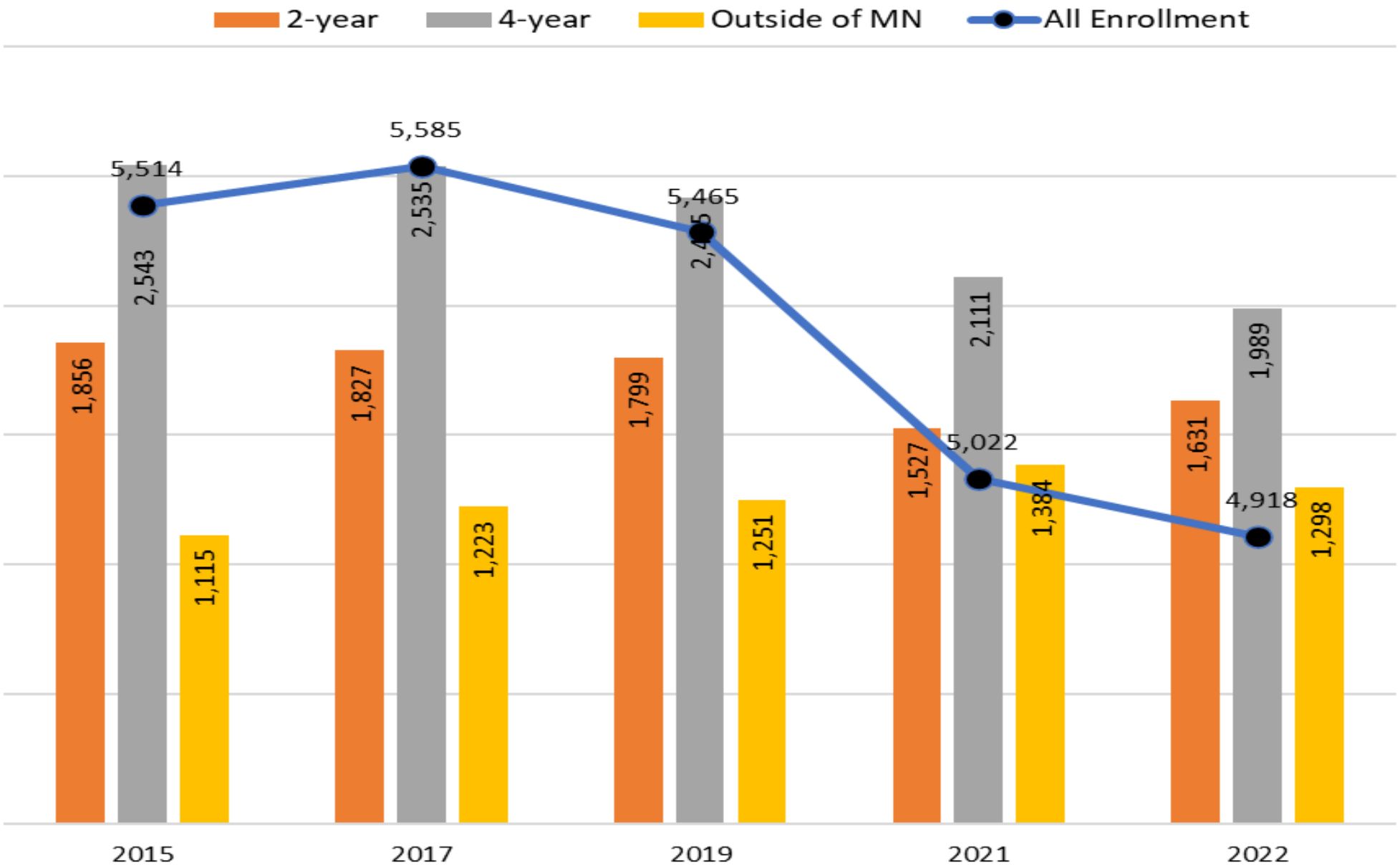


Figure 1. Central Minnesota College Enrollment Trends For Recent High School Graduates



High school graduates enrolling in college the fall after high school graduation

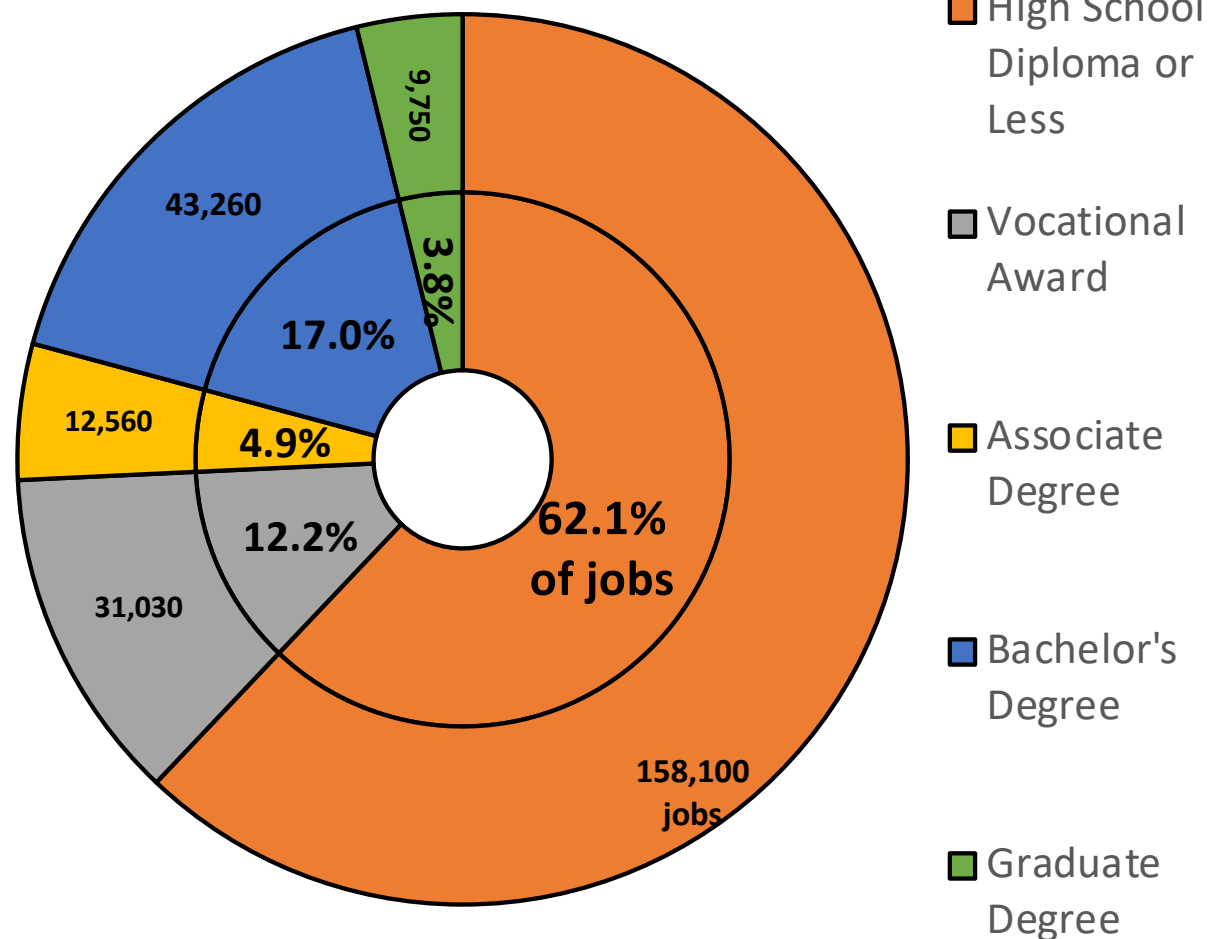
Source: MN SLEDS

You are an influencer

- How are we framing career opportunities?
- How do we think and talk about our communities?

Do we encourage deciding an education or a career path first?

Central Minnesota's Share of Jobs by Educational Requirements, 2023



The Burden of Career Decision Making Has Moved... Younger



Major Matters

New Research to Help Think Through the *Value Proposition*

• <https://mn.gov/deed/newscenter/publications/trends/september-2023/popular.jsp>

- This article assesses postsecondary instructional program outcomes based on median wage and estimated net income, seven years post-graduation.
- The article describes how students, parents/guardians, educators, career counselors and others can utilize data in an interactive tool developed by DEED's Labor Market Information office to compare outcomes by instructional program.

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Popular or Pragmatic Part 2: The Long View

By [Carson Gorecki](#) and [Luke Greiner](#) with data and analysis by [Alessia Leibert](#)
September 2023

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Figure 1. Annual Median Wages Seven Years After Graduation for the Class of 2015 by Program and Award

Annual median wage, 7th year post-gradu...
\$250K
\$200K
\$150K
\$100K
\$50K
\$0K

Certificates (less than Bachelor's Degrees) Associate Degree Bachelor's Degree Graduate (Certificates and Degrees)

\$50,588 \$55,619 \$69,312 \$88,219

Award Type (Degree) (All)

Instructional Program
Accounting and Related ...
Advanced/Graduate Dent...
Aerospace, Aeronautical ...
Agricultural Business an...
Agricultural Engineering
Agricultural Mechanizati...
Agricultural Production ...
Air Transportation
Allied Health and Medica...
Allied Health Diagnostic, ...
Alternative and Comple...
American Sign Language
Animal Sciences
Anthropology
Apparel and Textiles

Sources: DEED Graduate Employment Outcomes, Minnesota Office of Higher Education. Note: Some outliers (Education, Other and Computer Science) in the certificates award type may be capturing professionals returning for additional credentials. As a result, the wages are also representative of the previously obtained awards for those certificate graduates.

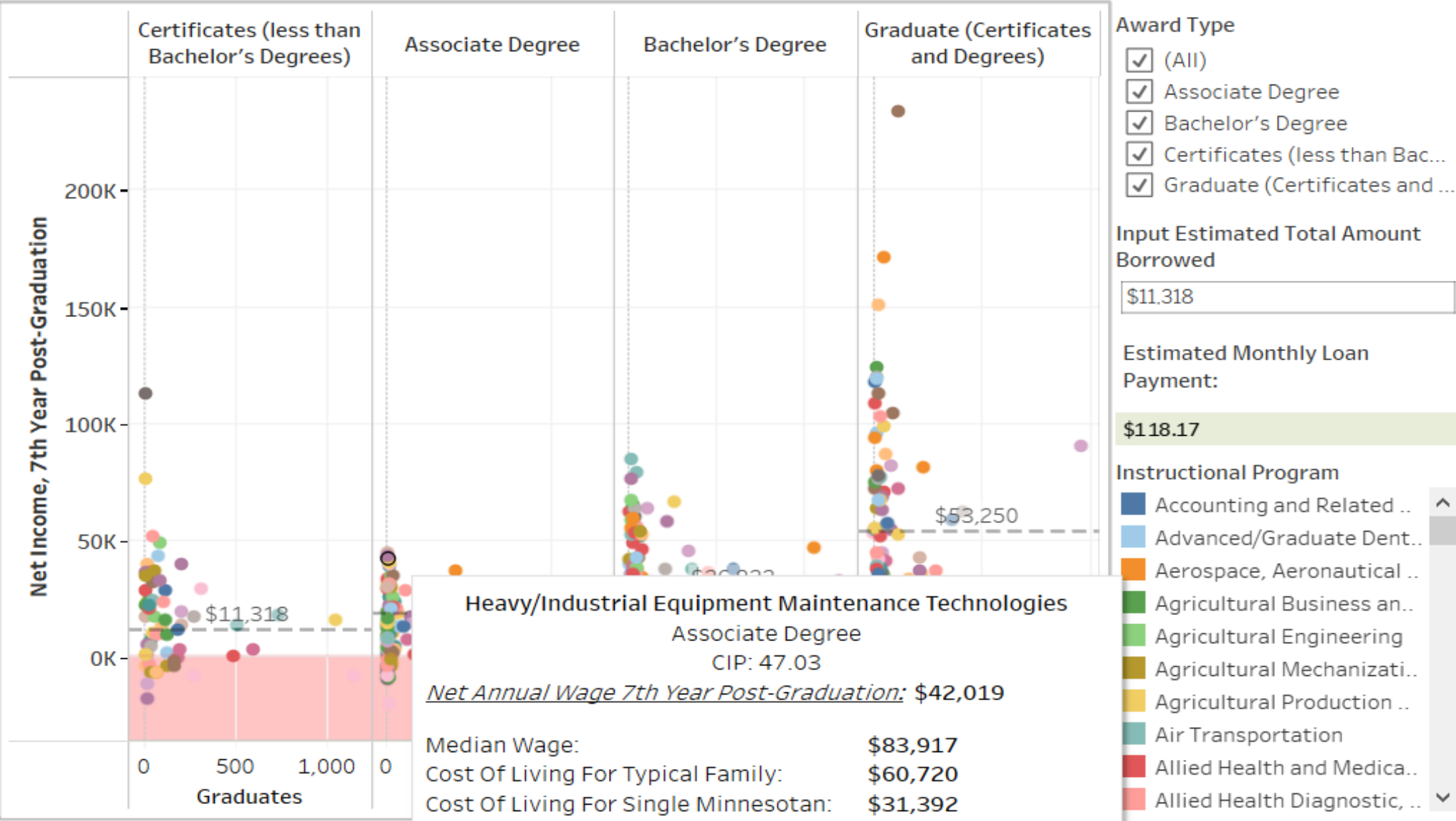
View on Tableau Public

This article is the second of a series assessing postsecondary program and award decisions. The [first article](#) and the associated interactive charts compared employment and wage outcomes for graduates of Minnesota postsecondary institutions by award type and instructional program, two and three years post-graduation. For many graduates, it

The visualizations can help readers explore:

- What does the typical graduate of a chosen instructional program and

Figure 2. Estimated Annual Net Income Seven Years After Graduation, Class of 2015

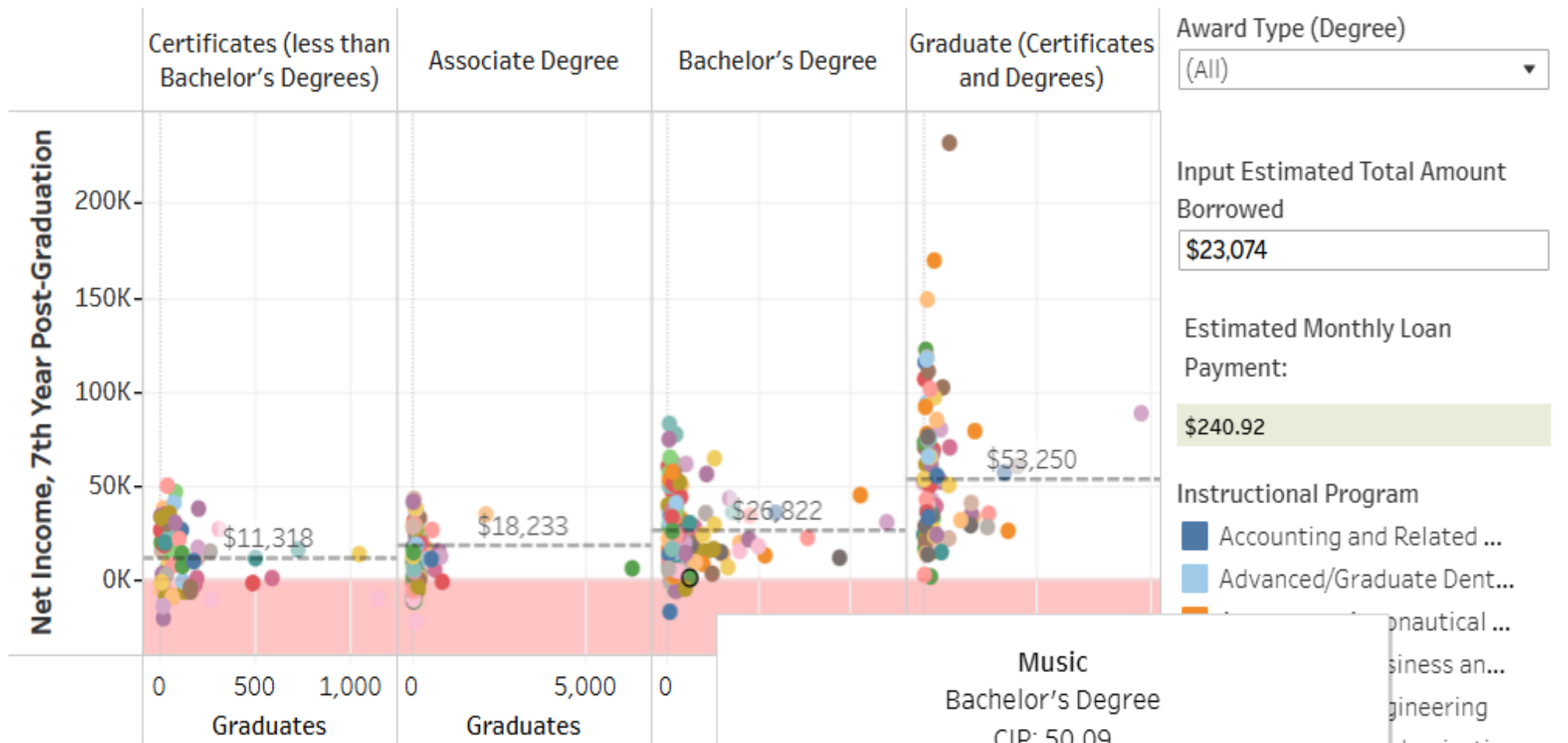


Note: Net wage is calculated by subtracting (from the median wage for graduates earning wages in Minnesota 7 years after graduation) the estimated annual loan repayment amounts (standard 10-yr term at 4.66%) from the median wage for graduates earning wages in Minnesota 7 years after graduation. Users may input their total amount borrowed. The cumulative average median debt by award type for 2015 graduates is shown for reference. You may enter an estimate of your own cumulative debt to change the net income calculation in the chart. The monthly payment is calculated from the input amount. Sources: DEED Graduate Employment Outcomes, DEED Cost of Living, and Minnesota Office of Higher Education.

Pathways Lead to Jobs, Some Need College, Some Don't



Figure 2. Estimated Annual Net Income Seven Years After Graduation, Class of 2015



Note: Net wage is calculated by subtracting a basic estimate of the cost of living (with one child) as well as an estimate of annual loan repayment amount from the estimated total amount borrowed. The net wage for graduates in Minnesota 7 years after graduation is shown for reference. You may enter an estimate of your own loan payment and the net wage is calculated from the input amount. Sources: DEED Graduate Education

Net Annual Wage 7th Year Post-Graduation: \$1,306

Median Wage: \$44,677
 Cost Of Living For Typical Family: \$60,720
 Cost Of Living For Single Minnesotan: \$31,392
 Graduates: 251
 Percent of graduates with Valid Wages: 54.7%

[View on Tableau Public](#)

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So much
DATA!

1. Field of Study

(program code shown in parenthesis)

Engineering & Engin.Technicians (1...

2. Detailed Course Topics

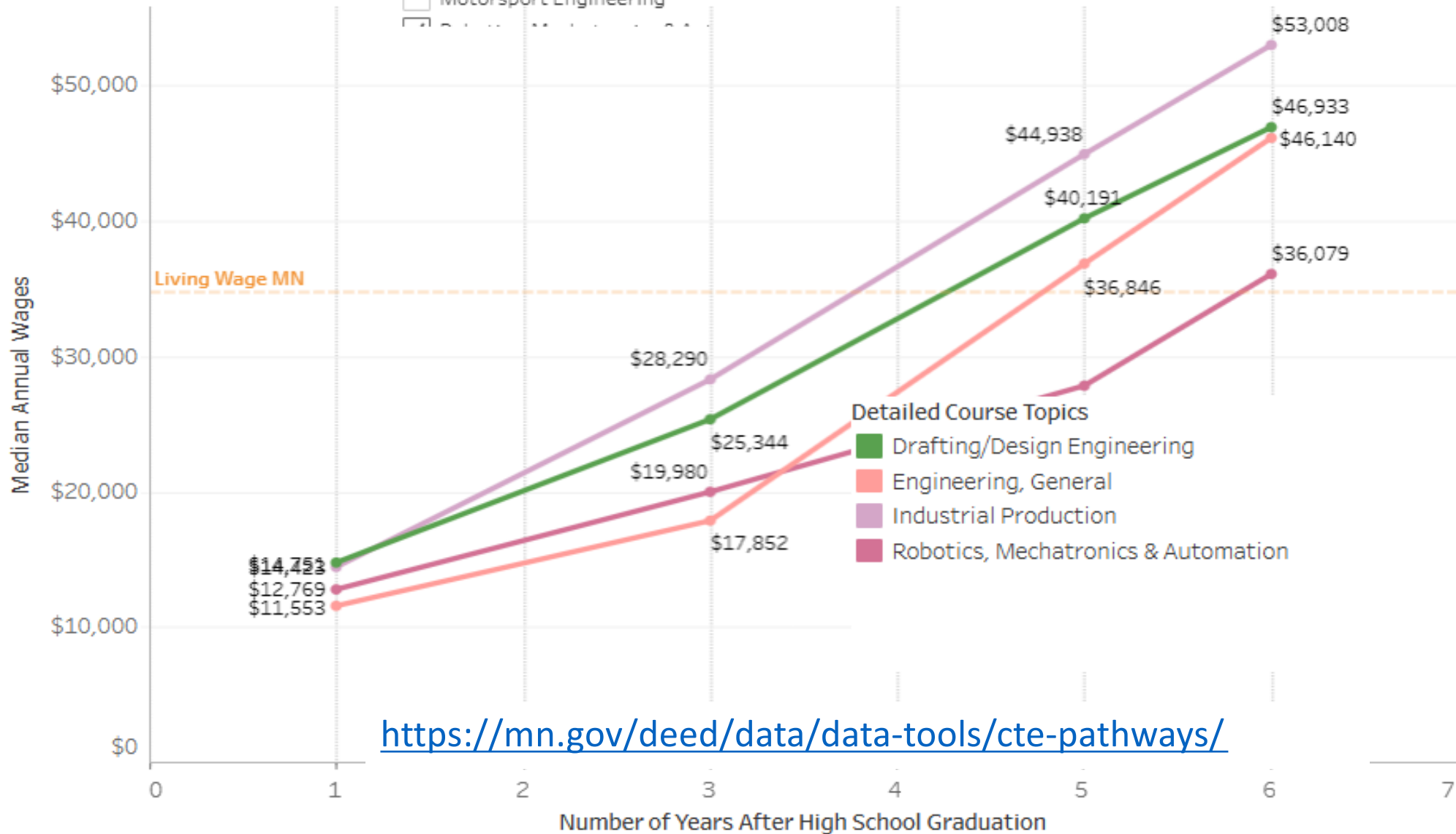
- (All)
- Aerospace Engineering & Technolo...
- Civil, Architectural & Agricultural ...
- Drafting/Design Engineering
- Electrical/Electronic Engineering
- Engineering, General
- Industrial Production
- Motorsport Engineering

3. Region of High School

Central

4. Educational Attainment Pathways

- Everyone
- Never enrolled in postsecondary
- Enrolled, did not complete (includes currently enrolled & dropouts)
- Credential below Bachelor (at any time by 2023)
- Bachelor or above (at any time by 2023)



<https://mn.gov/deed/data/data-tools/cte-pathways/>

1. Field of study

(Multiple values)

2. Region of High School

Central

3. Educational Attainment

- Everyone
- Never enrolled in postsecondary
- Enrolled, did not complete (includes currently enrolled & dropouts)
- Credential below Bachelor (at any time by 2023)
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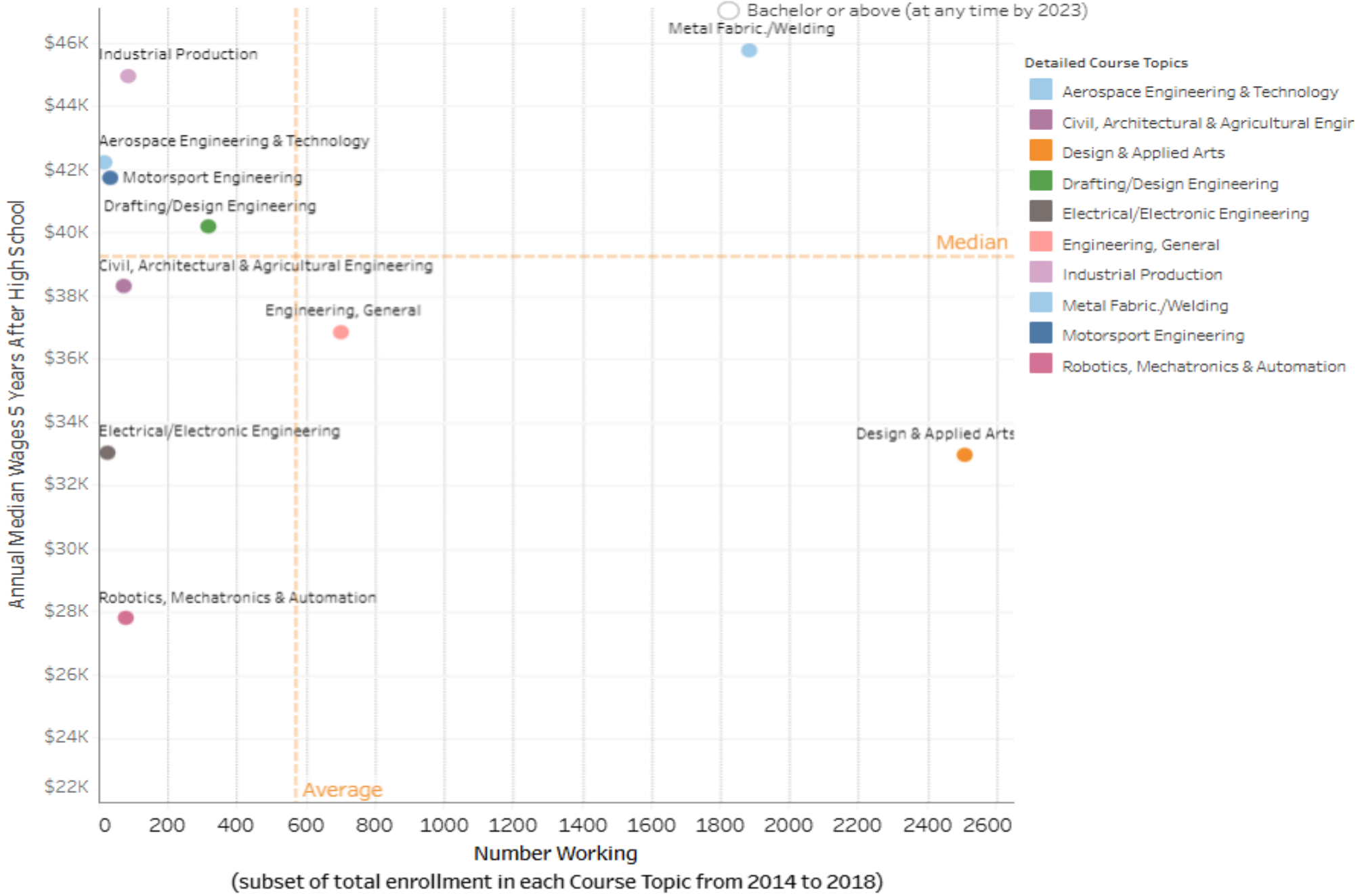


Figure 2- Educational Pathways Five Years after High School

Instructions: Select a Field of Study, then use the Detailed Course Topics menu to narrow the selection. CTE programs differ widely in their potential to help students earn good wages without a postsecondary education, as well as in their potential to prepare students for success in college. Use these interactive charts to explore which programs best prepare students for the workforce without postsecondary credentials and those that are best paired up with a postsecondary credential.

1. Field of Study

(Program CIP code shown in parenthesis)

Engineering & Engin.Technicians (14-15) ▼

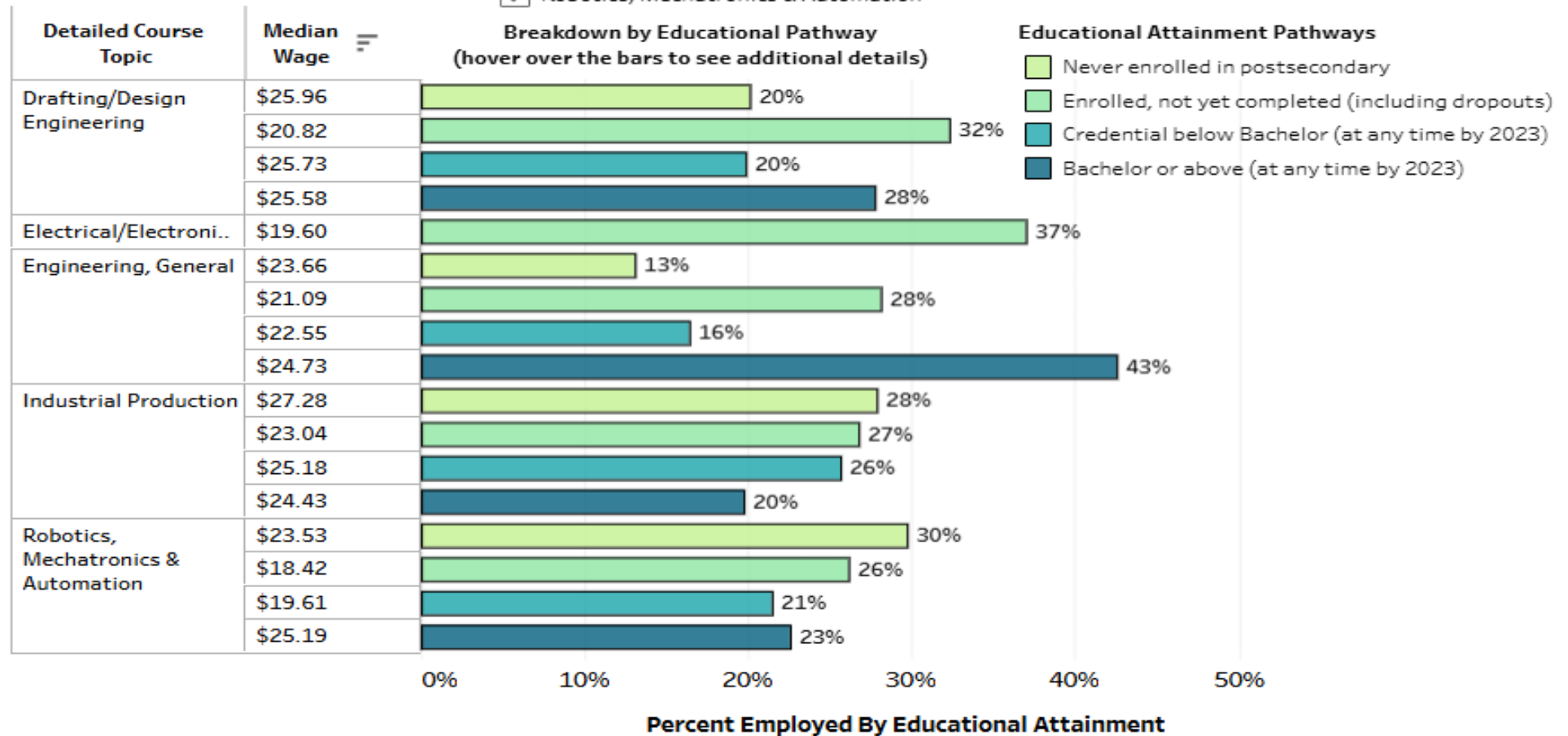
2. Detailed Course Topics

- Civil, Architectural & Agricultural Engineering
- Drafting/Design Engineering
- Electrical/Electronic Engineering
- Engineering, General
- Industrial Production
- Motorsport Engineering
- Robotics, Mechatronics & Automation



3. Region of High School

Central ▼



The data represent students who graduated from a public high school in MN between 2014 and 2018, took at least 100 hours of instruction in Career & Technical Education (CTE) and a minimum of 58 hours of instruction in a single Course Topic, and were employed in MN six years after high school. Fields of study were grouped into 18 categories corresponding to 2-digit CIP codes

Figure 3- Industry Pathways Five Years After High School

Instructions: Select a Field of Study, then use the Detailed Course Topics menu to narrow the selection. For example, 22% of students who took courses in Construction were employed in the Construction industry five years after high school. Use the Educational Attainment filter to identify programs that lead to good wages in related industries without a college credential.

1. Field of Study

(Program CIP code shown in parenthesis)

Engineering & Engin.Technicians (14-...

2. Detailed Course Topics

- Drafting/Design Engineering
- Electrical/Electronic Engineering
- Engineering, General
- Industrial Production
- Motorsport Engineering
- Robotics, Mechatronics & Automation

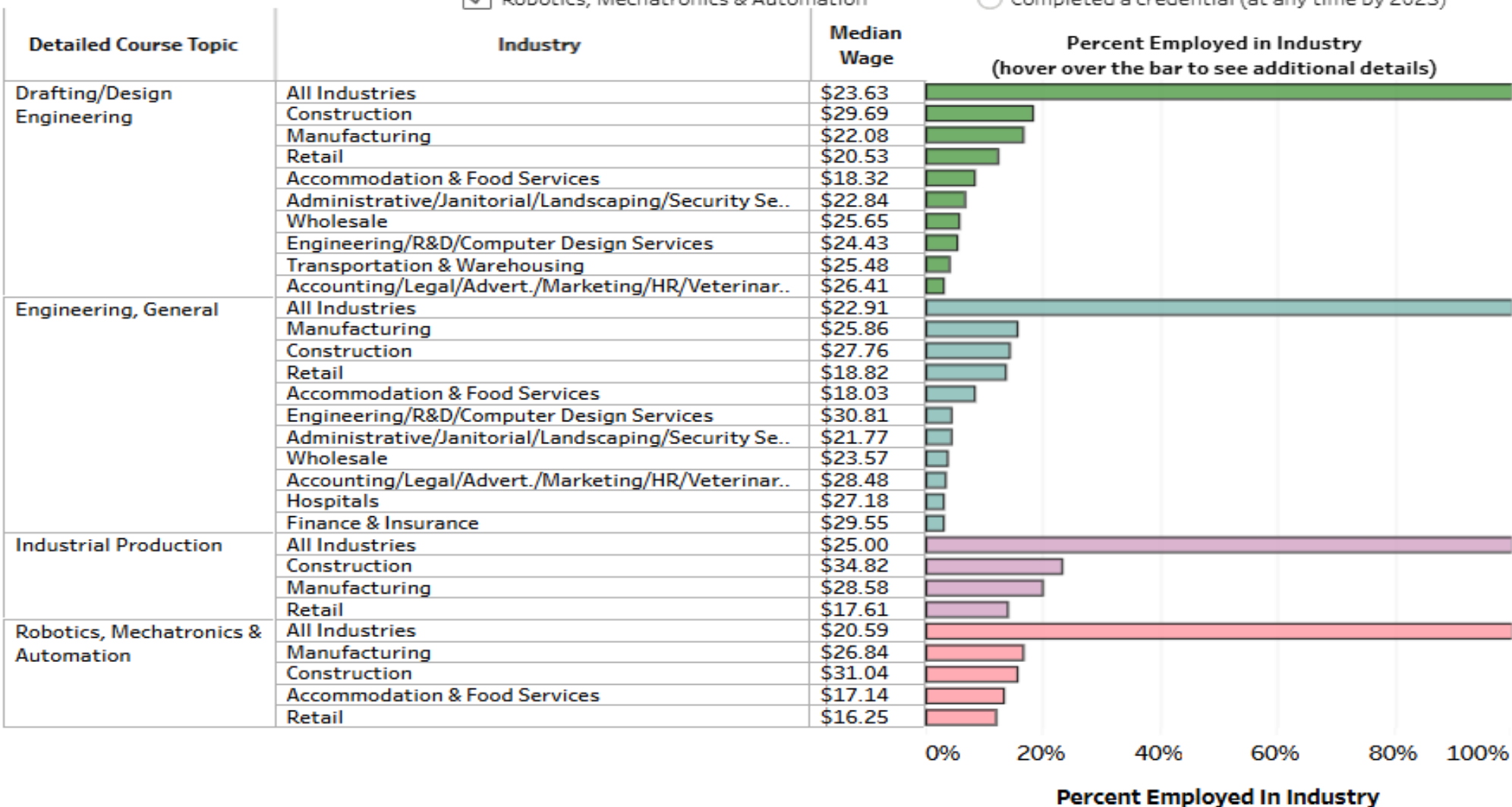


3. Region of High School

Central

4: Educational Attainment Pathways

- Everyone
- Never enrolled in postsecondary
- Enrolled, not finished yet (including dropouts)
- Completed a credential (at any time by 2023)



CTE Doesn't Just Happen

- Who is missing from these conversations at your local district?
- How can we ensure that everyone is on board, remember influencers are everywhere.
- Do your students know what the value of high school is?
 - Are we connecting the dots?
 - Ever heard of P2C? p2c.org/

CTE can be bigger than a funding mechanism

Thank You!



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