

Application: CCMR Tools for Researchers and Practice Partners

LONESTARP3 Data Council



LONESTARP3

Agenda

- Data Council Overview & Focus on CCMR Products
- Product 1 Walkthrough: Open-Source CCMR Tracking Tool
- Product 2 Walkthrough: Texas Credential-to-Career Crosswalk
- Use Case of Product 2: How do Industry-Based Certifications Impact Texas High School Graduates Entering the Workforce
- Hands-On Exploration
- Group Discussion & Wrap-Up

What is the LONESTARP3 Data Council?

VISION

Increase visibility and use of Texas P20W data system, resources, and published research. Provide insights and recommendations to inform improvements to Texas data systems and tools to enhance their impact on education practice and policy.

PURPOSE

Address educational challenges through data-driven insights, and create shared, actionable knowledge to benefit Texas students, educators, and policymakers.

Products:

- Tangible product(s) with a focus on policy–data alignment and usability
- Supports statewide coordination through products that support researchers, policy stakeholders, and/or educational institutions
- Goal is for prototype to leverage the high priority and highly actionable deliverables

Identifying the Need for CCMR Infrastructure

Recurring Challenges Identified by the Council

- CCMR definitions vary across agencies and legislation
- Data systems are difficult to reconcile across sectors
- Replication and back-mapping are challenging
- No shared linkage framework connects K–12, higher education, and workforce

Data Council Approach

- Develop tangible, open products
- Focus first on CCMR
- Prioritize usability and coordination

Council Members Leading Product Development



Lane Sobehrad
Coordinator of
Research &
Innovation



Jennifer A.
Freeman
Assistant
Professor



LONESTAR**RP3**

Product 1: Open-Source District Tracking & Accountability Tool

Building Local Infrastructure for Accurate CCMR Tracking



LONESTAR^{RP3}

Why Districts Struggle with CCMR Tracking

- CCMR data lives in multiple disconnected systems (assessment vendors, IBC providers, SIS, PEIMS, military verification)
- Reporting is often manual and campus-specific
- Small and rural districts lack dedicated data infrastructure
- Leaders cannot easily:
 - Identify students off-track
 - Preview accountability outcomes
 - Monitor subgroup gaps

On a campus, CCMR tracking is often unwieldy

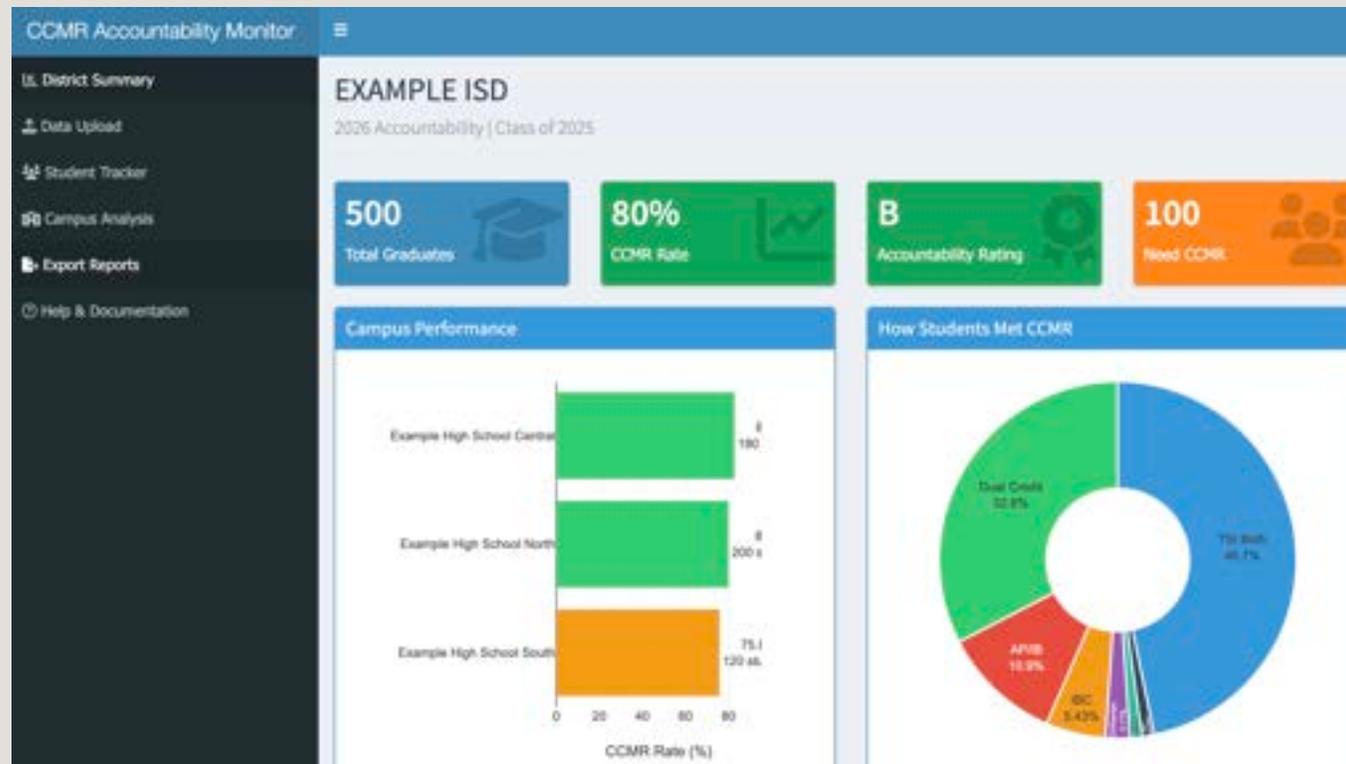
- 40+ data points for each students.
 - TSI/TSIA2 Math and Reading data
 - ACT data
 - SAT data
 - College prep course data
 - AP Exam data
 - IB Exam data
 - Dual credit course data (including OnRamps)
 - Industry-based Certification (IBC)
 - Associate's Degree data
- Each data point must be monitored until the student graduates.
- Need for multiple data platforms and lagging data means many districts monitor students manually in order to stay current.
- 3rd party solutions are often cost prohibitive, especially for smaller districts.

Two Prong Approach

1. Identify stakeholder needs
 - Needs Assessment and Survey Deployment
 - Platform Evaluation (Complete)
 - Analysis, Synthesis, and Dissemination
2. Develop product to meet identified needs
 - Minimum Viable Product (Complete)
 - Enhancements
 - Future Features

Open Source CCMR Tracker Framework

- Test out the tool here [\[\[\]\]](#)
- Provide us feedback on features you would like to see



Product 2: Texas Credential to Career Crosswalk

Linking Coursework, Credentials, and
Regional Workforce Demand



LONESTAR P3

The Fragmentation Problem

- Data systems are siloed across agencies
- There is no shared linkage framework
- Stakeholders cannot easily track progression from high school to career

Top Career and Technical Education Occupations in Statewide & All WDA							
Top Occupations by 10-year projected growth for Occupations that pay above Texas Median Wage of \$47,499							
Area	SOC Co	Occupational Title	OEWS Current Employment (2024)	Average Annual Job Openings (2022-2032)	Estimated 10-year Employment Increase (2032)	OEWS Median Annual Wage (2024)	Typical Education & Training
Texas	15-1252	Software Developers	151,460	12,350	51,504	\$130,500	Bachelor's degree

THECB Texas Higher Education Coordinating Board	
FY24-5 High-Demand Fields for FY	
These lists will apply to all credentials actually conferred in FY 24 and FY 25; it does not affect initial forecasts of credential counts for FY24 or FY25.	
Note: Each college's high-demand fields list consists of a statewide set of four-digit CIP codes and a set of region-specific four-digit CIPs, which are displayed to the	
High-Demand Fields: A field in which an institution awards a credential that provides a graduate with specific skills and knowledge required for the graduate to be successful in the workforce (relating to Community College Finance Program: High-Demand Fields).	
* For each college's region, see table beginning in cell A59	
Statewide High-Demand Fields	
CIP Code	CIP Title
5101	Agricultural Business and Management
5103	Veterinary/Animal Health Technicians/Technicians
1102	Computer Programming
1105	Computer Systems Analysis
1107	Computer Science
1109	Computer Systems Networking and Telecommunications
1110	Computer Information Technology Administration and Management
1204	Consultancy and Related Personal Guidance Services

Region	SOC Co	SOC Group Title	SOC Code	SOC Code Title	CIP Group
Alamo	43-30	Supervisors of Office and Administrative Support Workers	43-1011	First-Line Supervisors of Office and Administrative Support Workers	01.01
Alamo	49-30	Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	49-3013	Aircraft Mechanics and Service Technicians	01.02
Alamo	43-30	Supervisors of Office and Administrative Support Workers	43-1011	First-Line Supervisors of Office and Administrative Support Workers	01.82
Alamo	43-30	Supervisors of Office and Administrative Support Workers	43-1011	First-Line Supervisors of Office and Administrative Support Workers	01.82
Alamo	43-30	Supervisors of Office and Administrative Support Workers	43-1011	First-Line Supervisors of Office and Administrative Support Workers	01.82
Alamo	43-30	Supervisors of Office and Administrative Support Workers	43-1011	First-Line Supervisors of Office and Administrative Support Workers	01.82
Alamo	41-90	Other Sales and Related Workers	41-9021	Real Estate Brokers	04.10
Alamo	41-90	Other Sales and Related Workers	41-9022	Real Estate Sales Agents	04.10
Alamo	49-30	Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	49-3023	Automotive Service Technicians and Mechanics	05.08

Why This Matters

Students & Families

- Credentials should clearly connect to real jobs and next steps
- Misalignment leads to lost time, momentum, and earnings

Districts

- Must design coherent course sequences tied to in-demand pathways
- Lack integrated tools to align coursework, credentials, and labor demand

Policymakers & Researchers

- Cannot fully evaluate pathway-to-workforce alignment
- Data gaps inhibit continuous improvement

Texas Credential-to-Career Crosswalk

TEA

- *Aligned IBCs to Programs of Study Crosswalk 2019-2024; 2024-2025*
- Linkage between IBCs and CTE POS.

IBC ↔ POS

TWC

- *LWDA Labor Market Information Reports, 2020-2030 projections*
- Occupation codes (SOC), wages, demand; (28 WDAs + statewide)

POS ↔ SOC

NCES/BLS

- *Aligned CIP 2020 – SOC 2018 Crosswalk*
- Linkage between postsecondary programs (CIP) and SOC codes

SOC ↔ CIP



Example: Meet Gus!

What We Know About Gus

- Region: 2
- Completed two POS in the Energy Cluster
- Earned one Industry-Based Certification (CPT 4.0)

What Questions Can We Ask?

- Are his POS and IBC Aligned?
- What jobs are linked to the POS he completed? Are they in demand? What do they pay? What Education do they require?
- If he continues to college, what should he study to stay aligned?

ARE HIS POS AND IBC ALIGNED?

Student	Region	POS Code	POS	IBC Code	IBC	POS-IBC Aligned?
Gus	2	44	Oil & Gas Exploration & Production	842	CPT 4.0	
Gus	2	49	Renewable Energy	842	CPT 4.0	

WHAT ARE HIS JOB OPTIONS IN HIS REGION? MEDIAN PAY? MINIMUM EDUCATION REQUIRED?

Region	POS- IBC Aligned ?	POS Code	Occupation	Regional Median Wage	Education Required
2	✓	44	Control and Valve Installers & Repairers	\$46,630	IBC
2	✓	44	First-Line Supervisors	\$61,865	Some college
2	✓	44	Petroleum Engineers	\$121,217	Bachelor's degree
2	✓	44	Roustabouts, Oil & Gas	\$38,117	High school diploma or GED
2	✗	49	Electrical & Electronic Technologists	\$71,131	Associate degree
2	✗	49	Electrical & Electronics Repairers	\$65,878	IBC
2	✗	49	Electrical Engineers	\$90,473	Bachelor's degree
2	✗	49	Electricians	\$47,728	IBC

WHAT CAN GUS STUDY IN COLLEGE THAT IS ALIGNED WITH HIS COURSEWORK AND REGIONAL LABOR MARKET?

POS Code	POS-IBC Aligned ?	Occupation	Regional Median Wage	Education Required	# Aligned CIPs	Example Program
44	<input checked="" type="checkbox"/>	Control and Valve Installers & Repairers	\$46,630	IBC	2	Heavy Equipment Maintenance Technology (47.0302)
44	<input checked="" type="checkbox"/>	First-Line Supervisors	\$61,865	Some college	21	Construction Trades (46.0000); Building Construction Technology (46.0415)
44	<input checked="" type="checkbox"/>	Petroleum Engineers	\$121,217	Bachelor's degree	2	Geotechnical & Geoenvironmental Engineering (14.0802)
44	<input checked="" type="checkbox"/>	Roustabouts, Oil & Gas	\$38,117	High school diploma or GED	0	N/A
49	<input checked="" type="checkbox"/>	Electrical & Electronic Technologists	\$71,131	Associate degree	9	Electrical Engineering Technology (15.0303)
49	<input checked="" type="checkbox"/>	Electrical & Electronics Repairers	\$65,878	IBC	4	Power Plant Technology (15.1702)
49	<input checked="" type="checkbox"/>	Electrical Engineers	\$90,473	Bachelor's degree	4	Electrical & Electronics Engineering (14.1001)

What We Learn from Gus

- IBC Alignment differs across his two POS
- Aligned occupations in his region vary in wages and required education
- Multiple postsecondary fields are available, but the number of aligned programs varies by occupation

While Gus is just one student, the same linkages can be used to evaluate pathways across districts and regions.

Use Case: The Value of Alignment

How do Industry-Based Certifications Impact
Texas High School Graduates Entering the
Workforce?



LONESTAR**RP3**



TEXAS TECH™

CREDENTIALING FOR WHAT?

EXAMINING THE LABOR MARKET RETURNS OF ALIGNED AND MISALIGNED INDUSTRY-BASED CERTIFICATIONS IN TEXAS

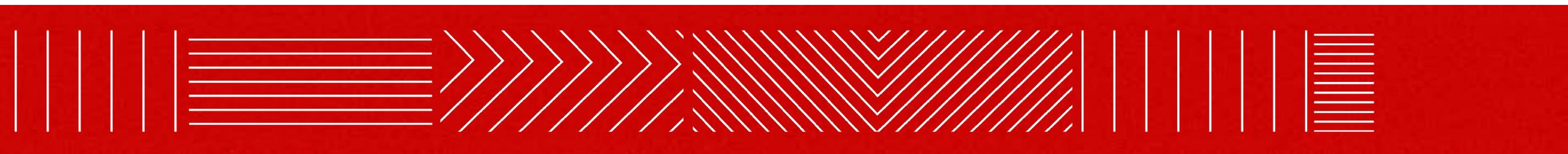
Jacob Kirksey, Jennifer Freeman, Braden Reed, Rachel Martin

Texas Tech University

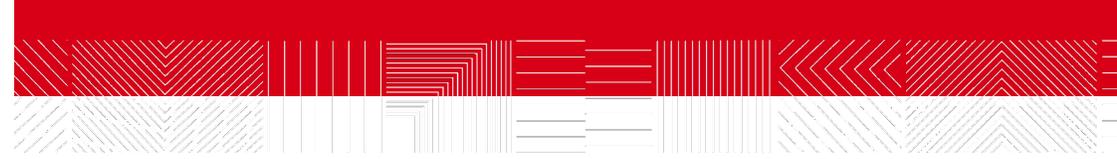
Angela Crevar

Mercer University

Association for Public Policy Analysis and Management, November 13, 2025



BACKGROUND



INDUSTRY BASED CERTIFICATIONS (IBCS)

- **IBCs** are third-party credentials earned by high school students to demonstrate industry-specific knowledge and skills.
 - Awarded by recognized certifying entities (e.g., American Welding Society, Adobe) and designed to signal workforce readiness upon graduation.
- **Goal:** Increase the number of students graduating with a credential that has labor market value, especially those not immediately pursuing college.
 - IBCs are also part of Texas's broader strategy that 60% of Texans aged 25–64 holding a credential or degree by 2030.
- Districts receive both accountability credit and financial incentives when students earn IBCs.

Accelerating Alignment

Texas Workforce System Strategic Plan

Fiscal Years 2024–2031



GOVERNOR GREG ABBOTT

Accelerating Alignment

Texas Workforce System Strategic Plan

Fiscal Years 2024–2031



GOVERNOR GREG ABBOTT

Industry-Based Certification

An industry-based certification (IBC) is a type of nontraditional award that is conferred to an individual who demonstrates proficiency and knowledge, through examination, in a specific industry or trade. An IBC is not dependent on any actual education or training program. Instead, evaluating candidates for certification relies on independent, third-party professional and industry groups. These national organizations develop and maintain relevant, uniform proficiency standards that are assessed and sanctioned by industry-approved examination facilities, independent of any educational institution or training program. Defining characteristics of IBCs include:

- nationally recognized,
- third-party assessed to industry-recognized occupational standards, and
- portable across regions and state boundaries.

Accelerating Alignment

Texas Workforce System Strategic Plan

Fiscal Years 2024–2031



GOVERNOR GREG ABBOTT

Industry-Based Certification

An industry-based certification (IBC) is a type of nontraditional certification that recognizes the skills and knowledge of an individual who demonstrates proficiency and knowledge, or trade. An IBC is not dependent on any actual education. Candidates for certification relies on independent, third-party organizations develop and maintain relevant, unbiased, and assessed and sanctioned by industry-approved examination institution or training program. Defining characteristics of

- nationally recognized,
- third-party assessed to industry-recognized occupations,
- portable across regions and state boundaries.



Texas Workforce
Commission



Labor Market Informa

Aligning Career and Technical Education with Regional Labor Demand

Career and Technical Education downloads will provide a list of in-demand occupations that are aligned with Texas Career Cluster and Statewide CTE Programs of Study information. This data is arranged by region and contains relevant labor market information to help understand which jobs are most likely to be available and well-compensated.

Understanding how CTE programs align to meaningful employment opportunities can assist school districts make informed decisions about high-wage, in-demand occupations to justify the creation of new Career Technical Education (CTE) programs and to guide program design. The information provided ensures that students are provided appropriate CTE opportunities while strengthening local economies.

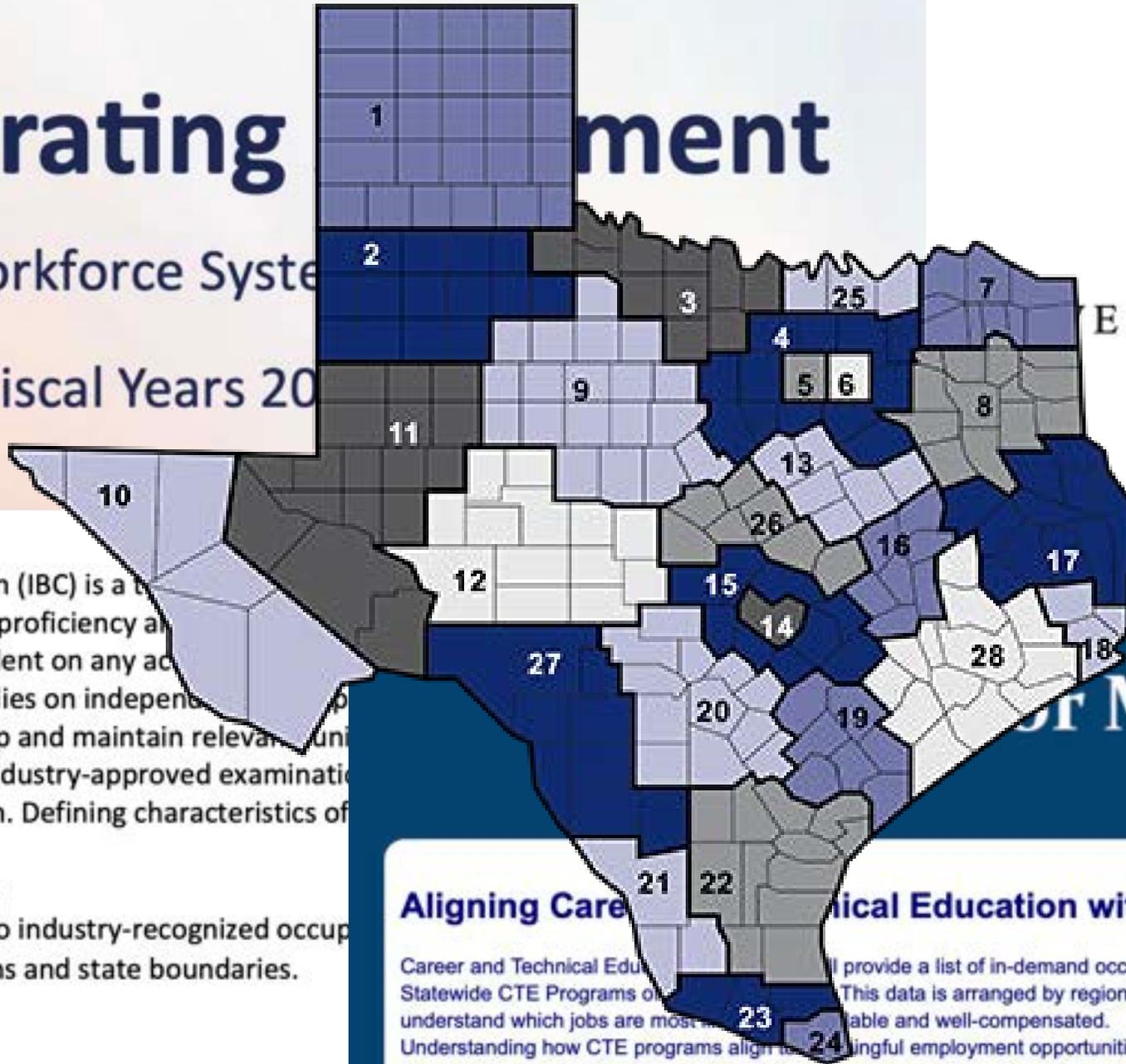
Accelerating Employment

Texas Workforce System

Fiscal Years 20



GVERNOR GREG ABBOTT



Industry-Based Certification

An industry-based certification (IBC) is a credential that an individual who demonstrates proficiency in a specific occupation or trade. An IBC is not dependent on any academic requirements. Candidates for certification relies on independent organizations that national organizations develop and maintain relevant standards. IBCs are assessed and sanctioned by industry-approved examination organizations, industry institution or training program. Defining characteristics of

- nationally recognized,
- third-party assessed to industry-recognized occupations,
- portable across regions and state boundaries.

Aligning Career and Technical Education with Regional Labor Demand

Career and Technical Education (CTE) programs provide a list of in-demand occupations that are aligned with Texas Career Cluster and Statewide CTE Programs of Interest. This data is arranged by region and contains relevant labor market information to help understand which jobs are most in-demand, portable and well-compensated. Understanding how CTE programs align with regional labor market information can assist school districts make informed decisions about high-wage, in-demand occupations to justify the creation of new Career Technical Education (CTE) programs and to guide program design. The information provided ensures that students are provided appropriate CTE opportunities while strengthening local economies.

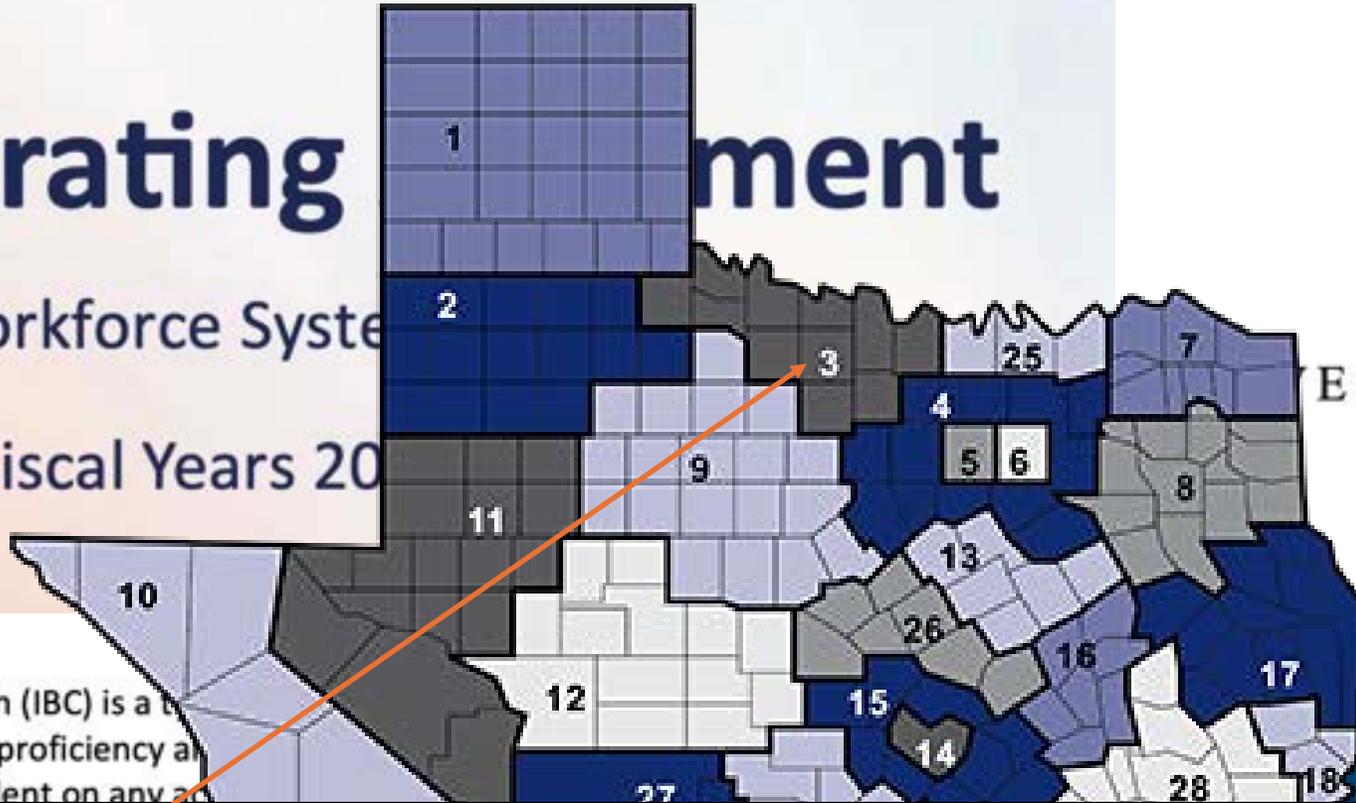
Accelerating Employment

Texas Workforce System

Fiscal Years 20



GVERNOR GREG ABBOTT



Industry-Based Certification

An industry-based certification (IBC) is a... individual who demonstrates proficiency in... or trade. An IBC is not dependent on any...

Informa

Demand

Texas Career Cluster and... ket information to help

ke informed decisions about... nd to guide program design... local economies.

Occupational Title	OEWS Current Employment (2024)	Average Annual Job Openings (2022-2032)	Estimated 10-year Employment Increase (2032)	OEWS Median Annual Wage (2024)	Typical Education & Training	State Career Cluster & Program of Study
Industrial Machinery Mechanics	630	101	552	\$61,217	High school diploma or equivalent & Long-term on-the-job training	<ul style="list-style-type: none"> Agriculture, Food and Natural Resources & Agricultural Technology and Mechanical Systems Manufacturing & Industrial Maintenance Manufacturing & Robotics and Automation Technology

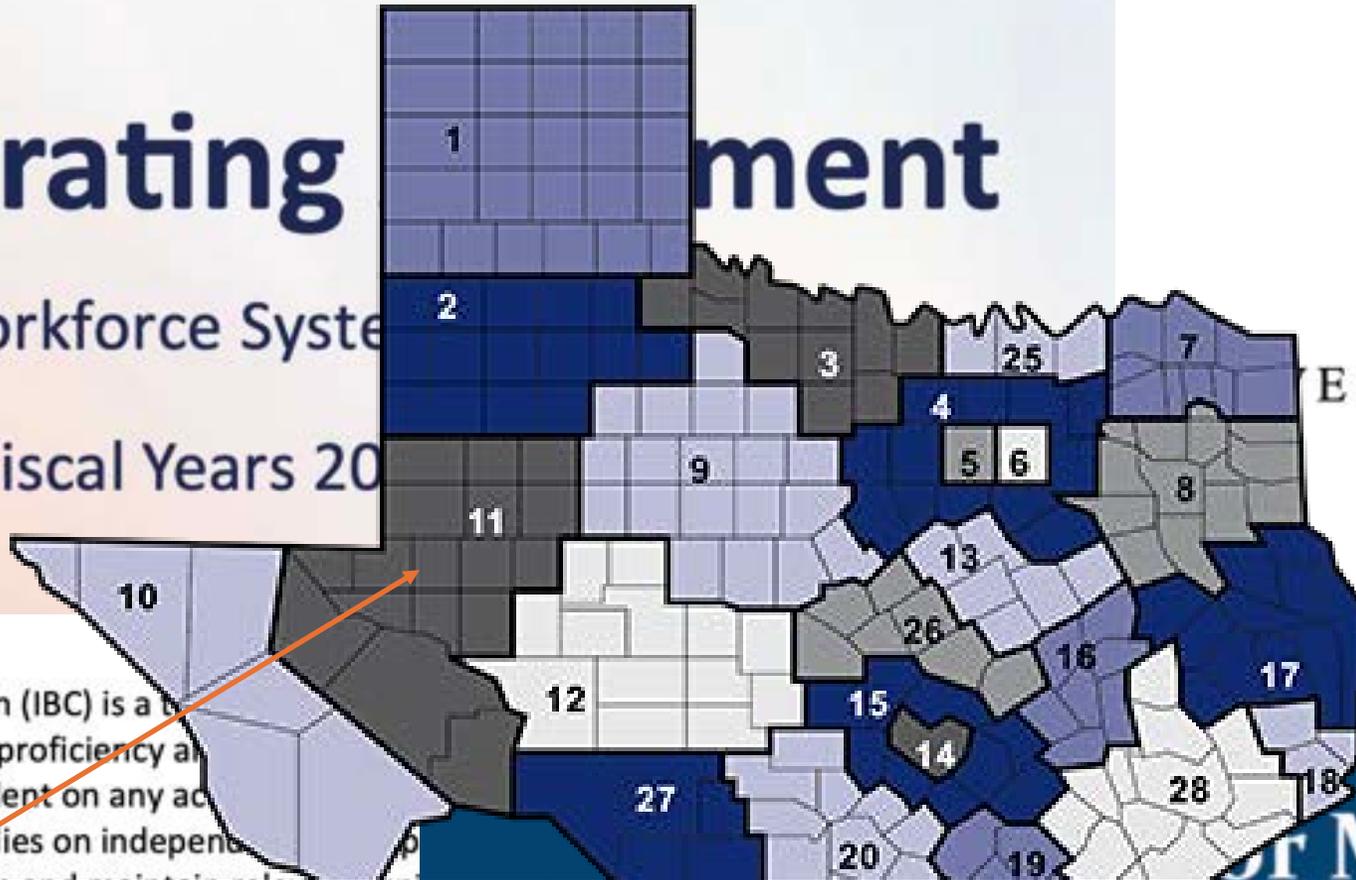
Accelerating Employment

Texas Workforce System

Fiscal Years 20



GVERNOR GREG ABBOTT



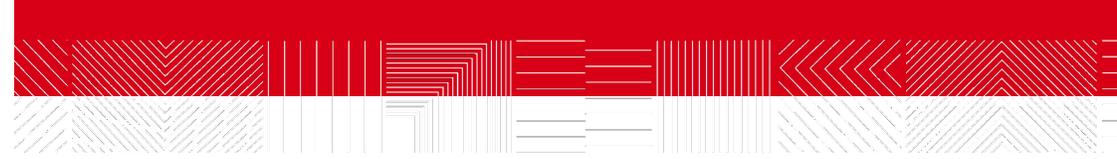
Industry-Based Certification

An industry-based certification (IBC) is a credential that an individual who demonstrates proficiency in a specific occupation or trade. An IBC is not dependent on any academic requirements. Candidates for certification relies on independent industry organizations.

or Market Informa

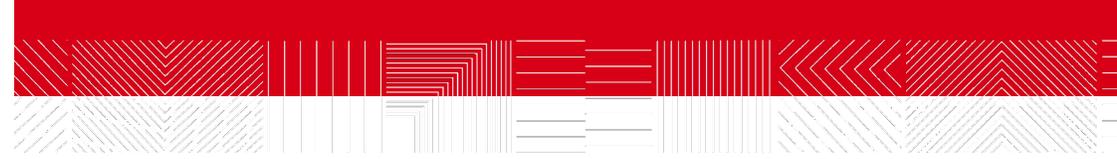
Occupational Title	OEWS Current Employment (2024)	Average Annual Job Openings (2022-2032)	Estimated 10-year Employment Increase (2032)	OEWS Median Annual Wage (2024)	Typical Education & Training	State Career Cluster & Program of Study
Heavy and Tractor-Trailer Truck Drivers	10,940	1,287	1,309	\$56,769	Postsecondary nondegree award & Short-term on-the-job training	<ul style="list-style-type: none"> Transportation, Distribution and Logistics & Diesel and Heavy Equipment Maintenance and Commercial Drivers

about sign.



CURRENT STUDY

- Texas policy links IBCs to approved CTE programs of study to align with in-demand industries, but the landscape is shifting as the state updates approved credentials and programs.
 - 295 active IBCs with 59 “sunsetting” after 2024–25 SY.
 - 62 programs of study with 4 added for the 2024–25 SY.
- **Questions remain:** Are students earning IBCs that reflect their CTE training and lead to meaningful employment?
- **Concern:** Misalignment between IBCs, CTE training, and local labor market needs may reduce credential value and undermine workforce policy goals.

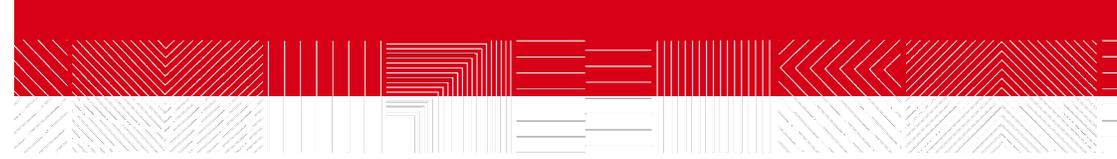


RESEARCH QUESTIONS

Policymakers are increasingly focused on improving economic outcomes for students who do not directly enroll in postsecondary institutions from high school. Our study asks:

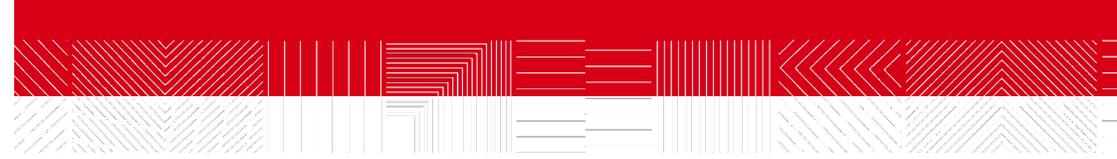
1. For students who do not enroll in postsecondary institutions within five years of high school graduation, what is the association of earning an aligned versus misaligned IBC on early-career earnings?
2. For students who do not enroll in postsecondary institutions within one year of high school graduation, what is the association of earning an aligned versus misaligned IBC on earning an additional credential aligned to local labor market demands?

DATA AND METHODS



DATA

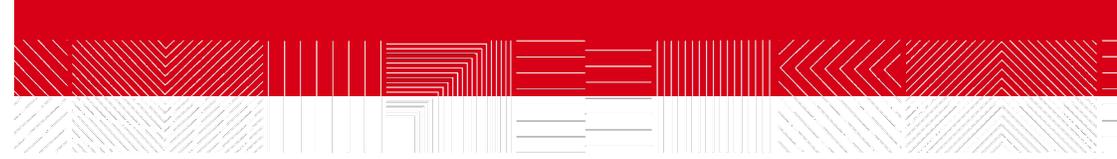
- Texas P20W data system spans EC-workforce
- Data linked between Texas Education Agency, Texas Higher Education Coordinating Board, and the Texas Workforce Commission (TWC)
- **Sample:** 5 cohorts of students who graduated from Texas public high schools between 2017-2021 and entered the workforce directly from high school:
 - **RQ 1 - Earnings:** (1) graduated on-time from high school; (2) did not enroll in college w/in 5 years of HS graduation (N=403,233)
 - **RQ 2 – Credential Attainment:** (1) graduated on-time from high school; (2) did not enroll in college w/in 1 year of HS graduation (N=623,463)



KEY VARIABLES

IBCs and Programs of Study

- We capture alignment between a student's IBC and program of study using:
 - **IBC Earner:** Student earned a TEA-approved IBC by the time of high school graduation
 - **Program of Study Completer:** Student completed 3+ CTE courses and 4+ credits in the same state-defined program of study, including at least one advanced course (Level 3 or 4)
- **Alignment:** IBC earned is officially linked to the student's program of study
- **Misalignment:** IBC earned is not linked to the student's program of study
- **Alignment with regional demand:** Created crosswalk from Texas Workforce Commission's biannual report linking *high-demand* occupations to CTE POS



PRODUCT FROM DATA COUNCIL

CTE-IBC-POS Crosswalk

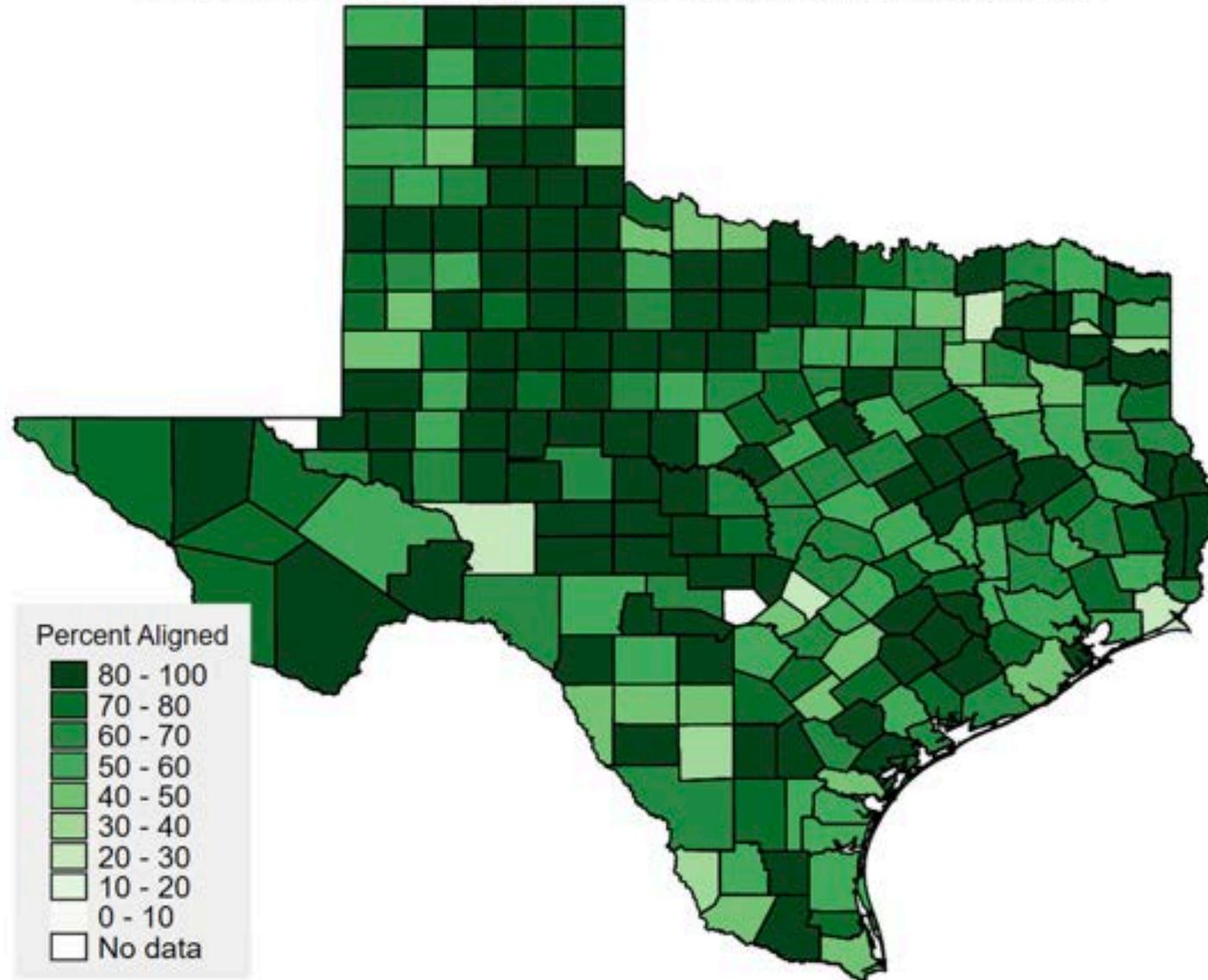
- We capture alignment between a student's IBC and program of study using:
 - **IBC Earner:** Student earned a TEA-approved IBC by the time of high school graduation
 - **Program of Study Completer:** Student completed 3+ CTE courses and 4+ credits in the same state-defined program of study, including at least one advanced course (Level 3 or 4)
- **Alignment:** IBC earned is officially linked to the student's program of study
- **Misalignment:** IBC earned is not linked to the student's program of study
- **Alignment with regional demand:** Created crosswalk from Texas Workforce Commission's biannual report linking *high-demand* occupations to CTE POS

RESULTS

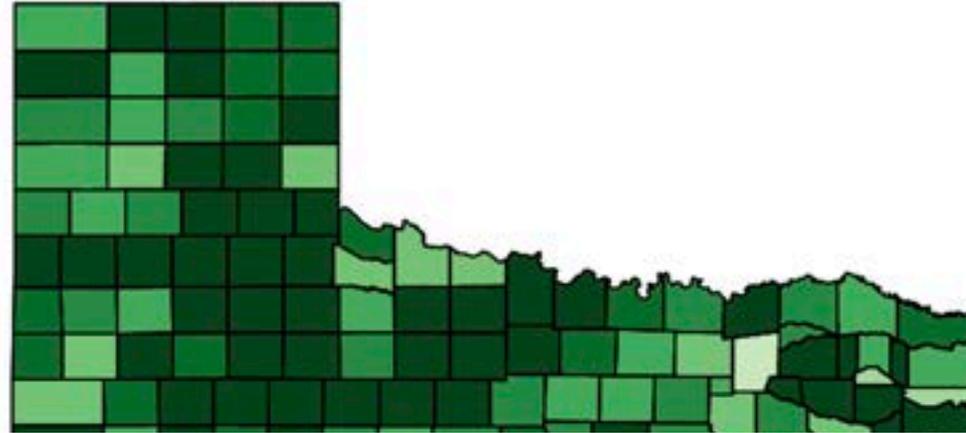
WHAT IS THE CURRENT STATE OF ALIGNMENT IN TEXAS?

CTE Aligned with Regional High-Demand Occupations

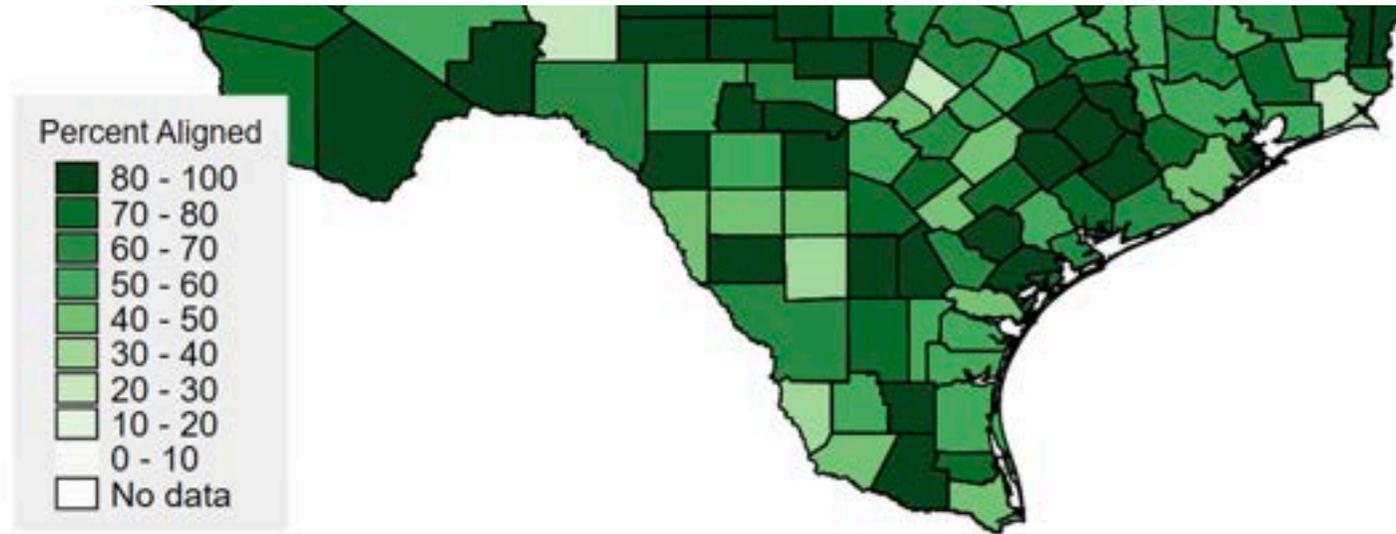
Students Completing CTE programs aligned to regional labor market demands



CTE Aligned with Regional High-Demand Occupations
Students Completing CTE programs aligned to regional labor market demands

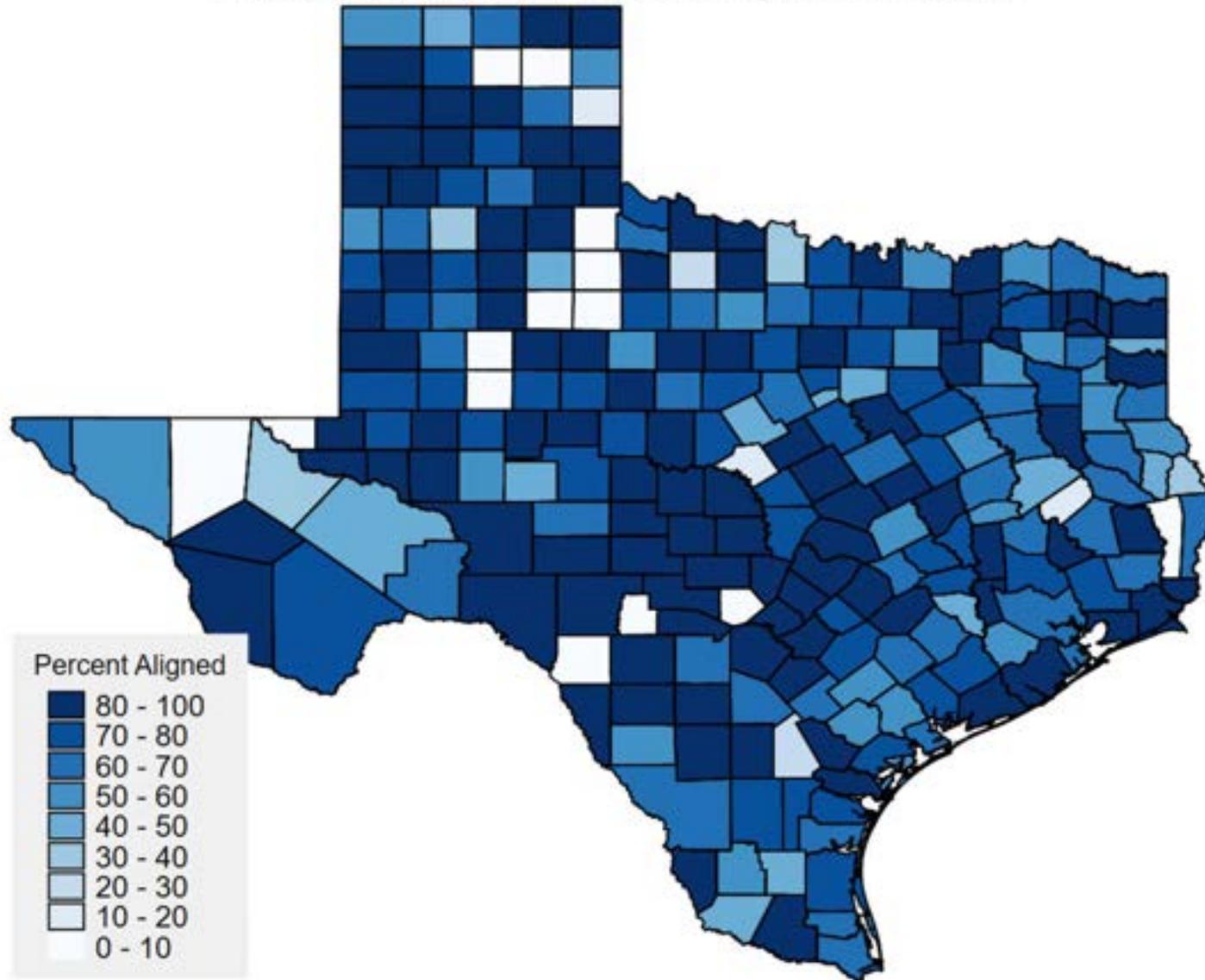


~71% of CTE program of study completers have a program of study that aligns with regional high-demand occupations

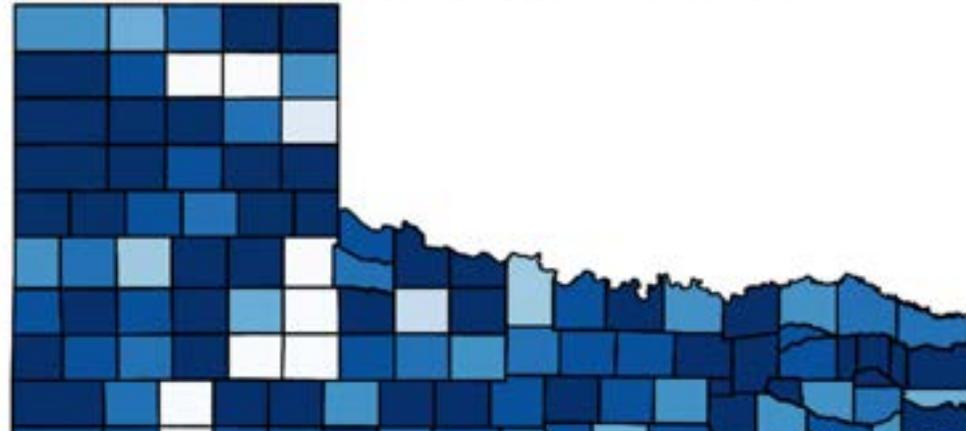


IBC Aligned with CTE Program

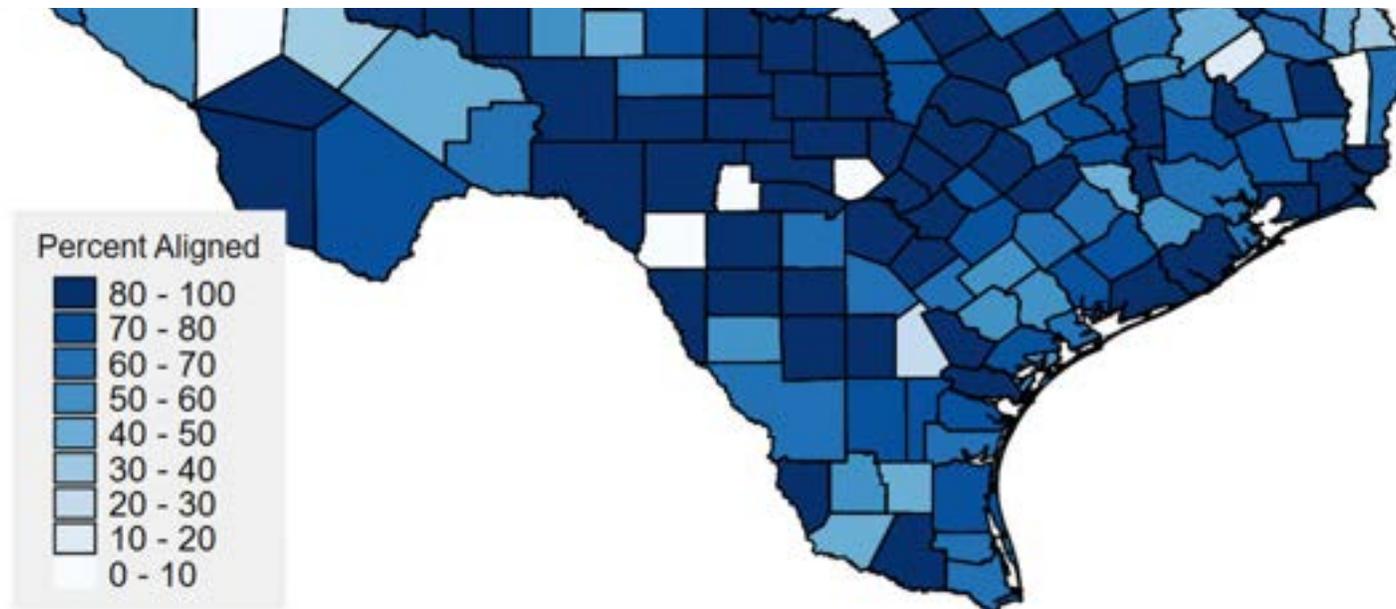
Students with industry-based certification aligned to CTE program



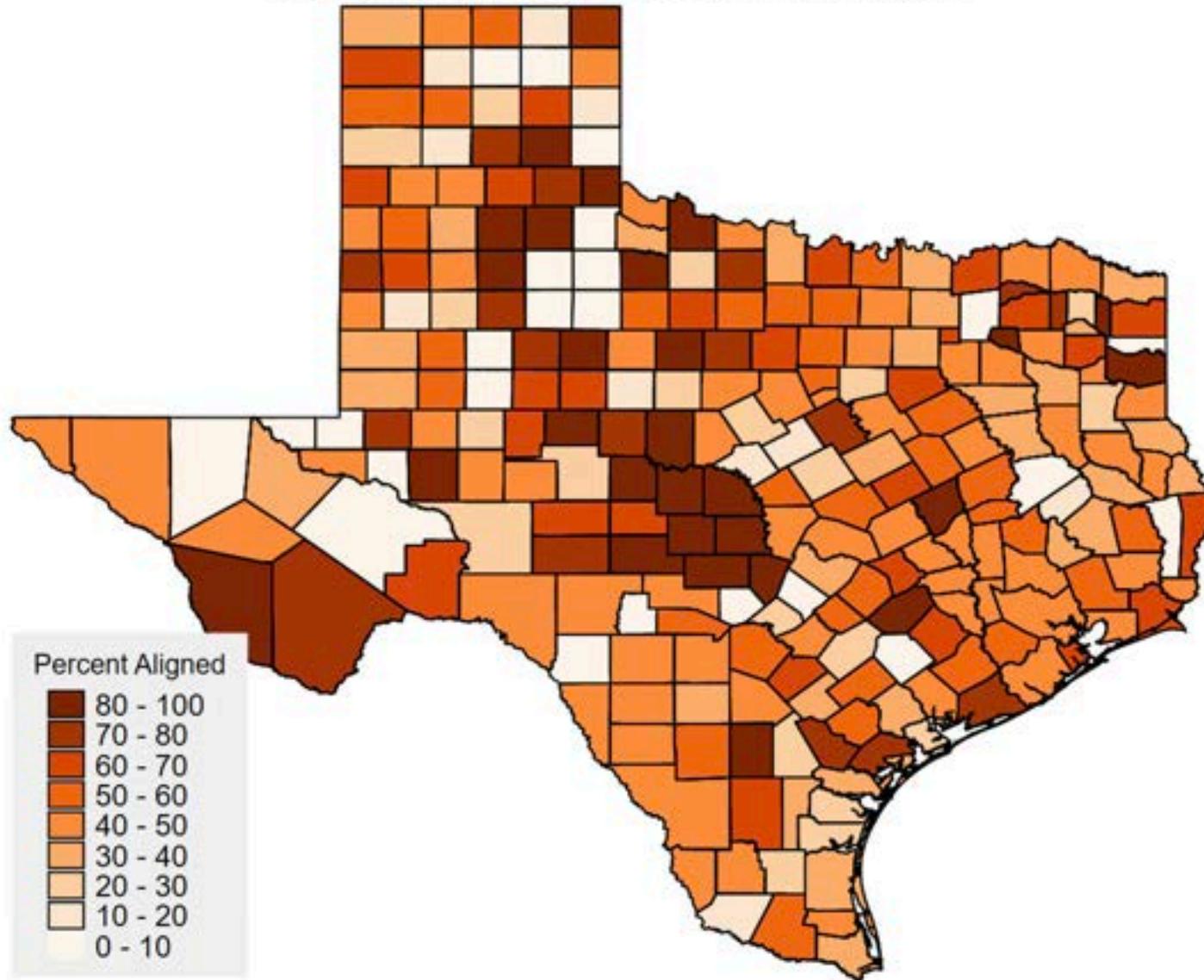
IBC Aligned with CTE Program
Students with industry-based certification aligned to CTE program



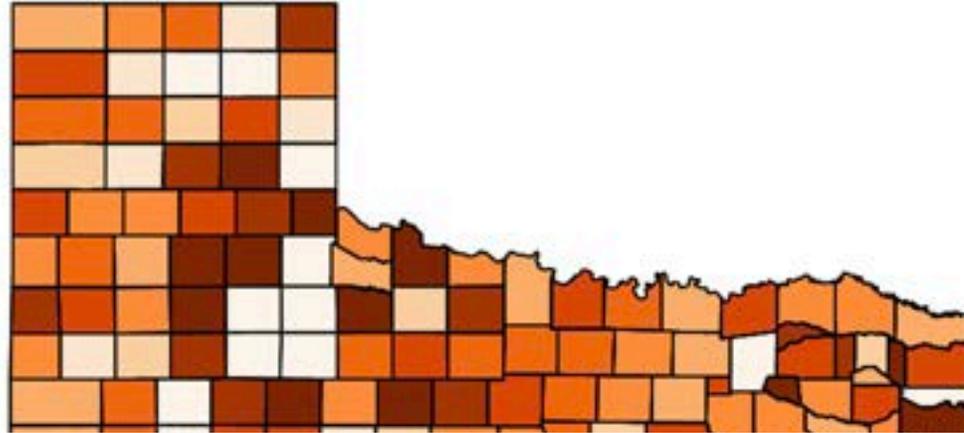
~73% of IBC earners have an aligned CTE program of study



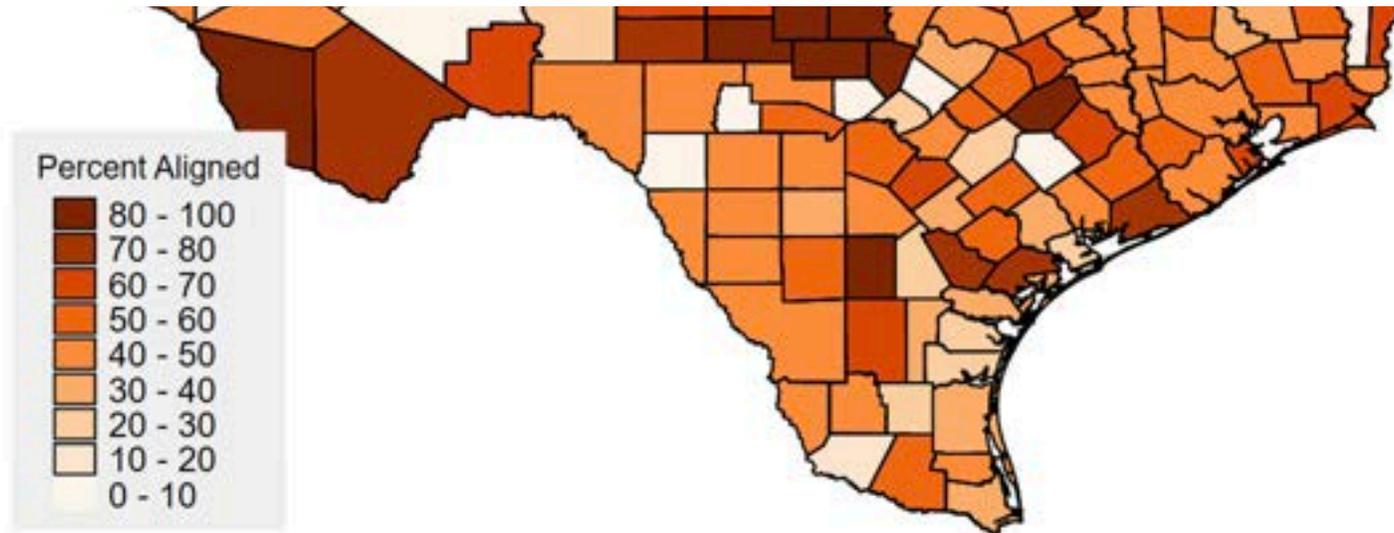
IBC-CTE-SOC Full Alignment
Students with IBC, CTE, and occupation code all aligned



IBC-CTE-SOC Full Alignment
Students with IBC, CTE, and occupation code all aligned



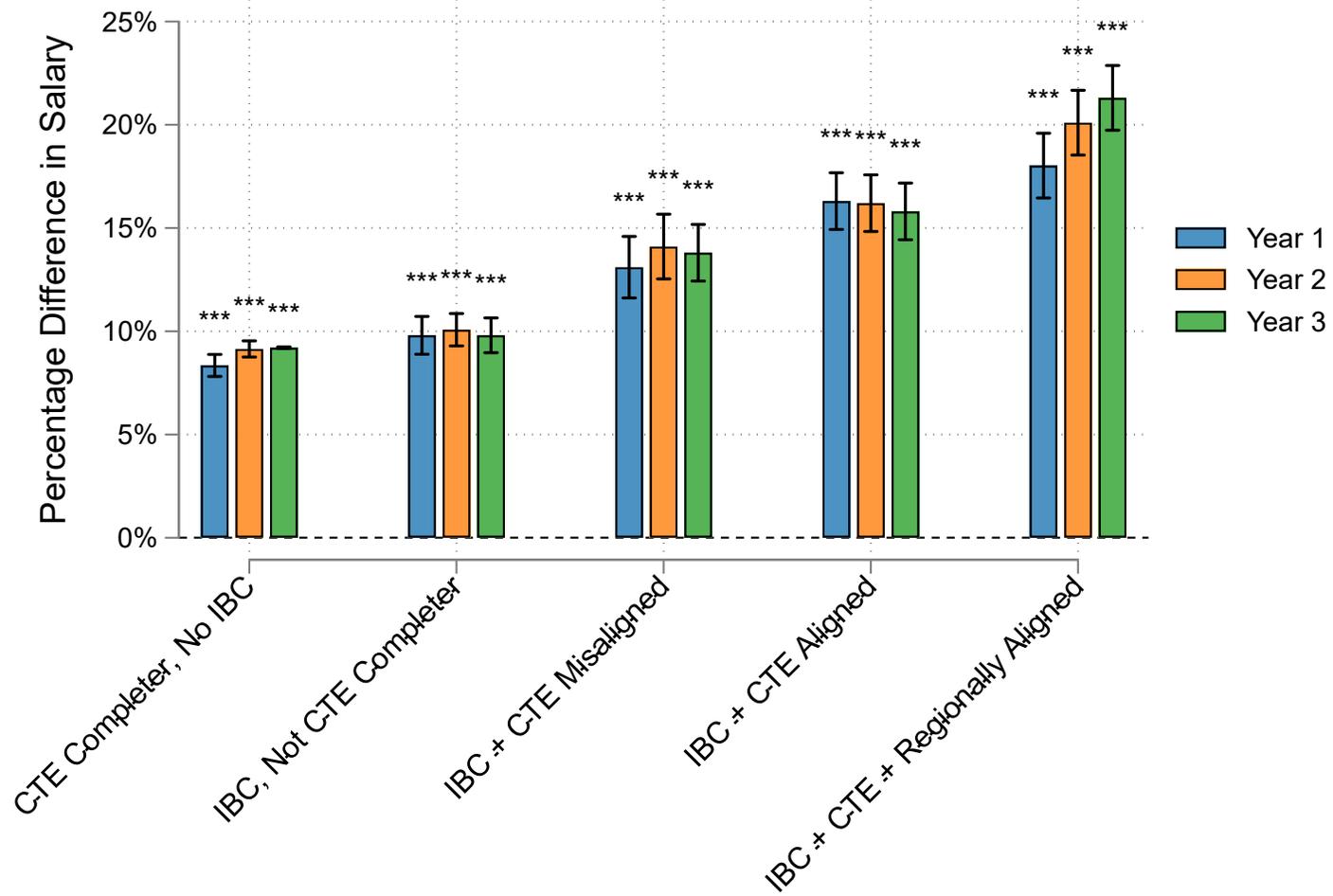
~47% of IBC earners have an aligned CTE program of study that aligns with regional high-demand occupations



DOES ALIGNMENT MATTER?

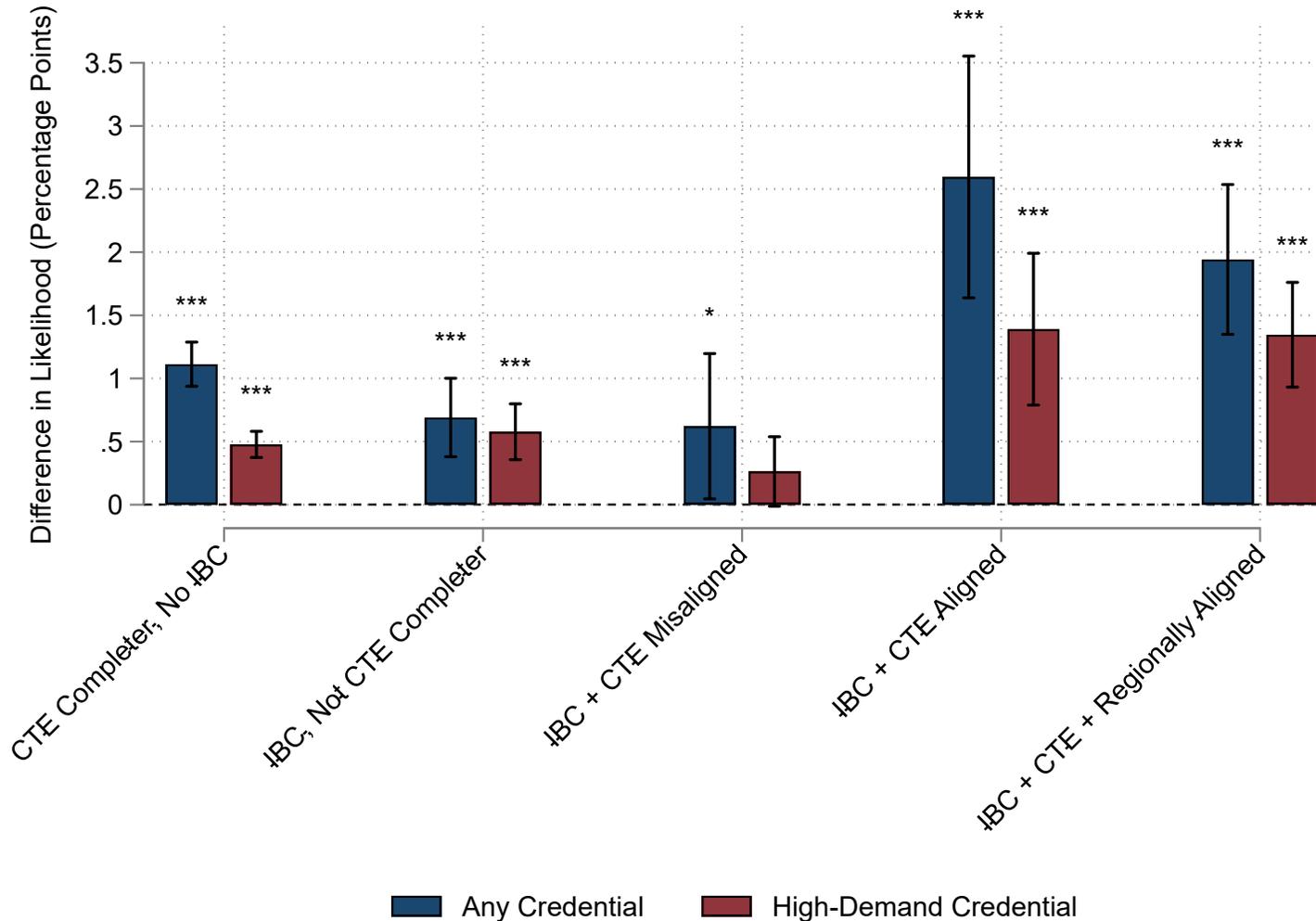


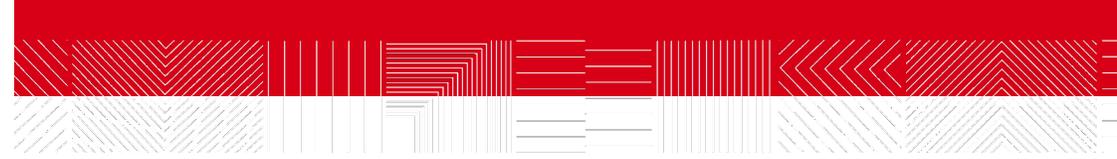
RQ 1: WAGES





RQ 2: POSTSECONDARY CREDENTIALS





TAKEAWAYS

Bright Spots

- CTE programs and IBCs correspond to better wages for students entering the workforce directly from high school
- CTE programs of study earned tend to align with IBCs, which fits within the CCMR framework
- Strong alignment in rural regions in Texas

Challenges

- Less alignment across CTE programs – IBCs – High-demand Occupations, which yields the greatest wages for students
- Limited analysis on IBC-CTE earners and alignment to postsecondary degrees, which are required by many high-demand fields
- CTE programs and IBC offerings change frequently

Hands-On Exploration & Discussion

- Each table will explore the two RP3 Data Council products
- Use the handout questions to guide your discussions
- Think about where these tools might connect to your current work or collaborations
- We will come back together to share a few key takeaways

QR Codes for CCMR Products



 Open Source Tracking
& Monitoring Tool 



 Texas Credential to
Career Crosswalk 