

Key Occupations in Texas:

A Labor-Market
Informed Applied
Research Project



Texas Success Center

Kristina Flores

Director of Research & Evaluation
Texas Success Center

Agenda

- Guiding Principles Grounded in Texas Pathways
- Applied Research Partnership
 - TACC and EMSI-Burning Glass
- Phase 1: Key Occupations and Career Pathways in Texas
 - Impact of Phase 1
- Phase 2: Regional Key Occupations and Career Pathways
 - A look under the hood!





Texas Success Center

Guiding Principles

PATHWAYS FRAMEWORK

Learners
From
Multiple
Entry
Points

Connect



Easily shop and select career-focused pathways that include industry-based certificates within the metamajor

Enter



Onboard with a clear initial completion plan which could span less than 6 months

Progress



Gain skills and work-related experiences in all targeted programs

Succeed



Complete credentials in high-demand occupations aligned with further education without the loss of time or credit

Enter
Good
Careers
with
Living
Wages
&
Further
Education
Plan

Systemic whole-college reform helping students reach their goals

Why TRUE Pathways? An innovative response to a pandemic crisis

COVID-19 delivers a **devastating blow to the Texas economy**, forcing businesses across our state to shift, suspend, and in many cases close operations.

- Millions of Texans lost their jobs with a record number of **more than 4 million filing initial claims for unemployment insurance** at its height. Many of these workers **lack skills to effectively transition back to work**.
- Workers with **only a high school diploma reached an unemployment rate of 19 percent** in April 2020 that declined but remains significantly higher than the rate for credentialed workers. The incumbent workforce will also continue to face new skills requirements.
- The pandemic's impact began with **deep employment reductions** in several industry sectors. It has now transitioned into the **severe lack of skilled workforce** with most businesses urgently in need of new applicants to fill large numbers of unfilled jobs.

Why TRUE Pathways? An innovative response to a pandemic crisis

COVID-19 delivers a **devastating blow to the Texas economy**, forcing businesses across our state to shift, suspend, and in many cases close operations.

- Significant shifts in **businesses have resulted in a serious mismatch between workforce needs and unemployed and underemployed worker skills.**
- A pre-pandemic national skills gap conflated with crisis related workplace transformations yield **new skills alignment challenges for many Texans, including the incumbent workforce.**
- Community college leaders, understanding the plight of our workforce, employers and economy, form a compact to offer solutions to meet the challenge, **a TRUE solution for Building a Talent Strong Texas.**



Knowledge Development: Objective

The Knowledge Development objective is to **conduct research that creates actionable knowledge** to support the redesign of the student experience at all community colleges in Texas.

The Center, with guidance from the Knowledge Development Steering Committee designs, commissions, and conducts research studies and related activities to:

- **build the knowledge base** concerning Texas Pathways reform efforts,
- **enhance the impact** of community colleges' Texas Pathways strategies, and
- **increase Texas community college research capacities.**

Research Partnership



**Texas Association of
Community Colleges**

Emsi's mission in higher education is to provide data and analytics that help colleges and universities:



Optimize

Program offerings



Connect

Students to programs and
careers



Communicate

Outcomes and impact



Texas Success Center

Phase 1: State Labor Market Insights

Phase 1: State-Level Key Occupations

PROJECT GOALS

1. Determine **15 Key Occupations** in Texas
2. Create Key Occupation **Snapshots**
3. Create Skills-Based **Career Pathways**
4. Design **Clear and Informative Materials** to Communicate Goals to Stakeholders
5. Utilize Key Occupation Snapshots and Career Pathways to **Inform Practice and Policy**

Phase 1: Considerations for Key Occupations at the State Level

- High demand: Demand in job postings (Dec 1, 2019 – Nov 30, 2020)
- High growth: Projected employment growth, 10-year¹
- Living wage salary: MIT living wage calculator (2 adults 1 child)², at least \$26,380 annually based on median BLS wages³
- Low automation risk⁴
- Entry-level and focus on sub-BA jobs
- In sync with top 10 Texas Workforce Commission job targets⁵

1: <https://www.bls.gov/emp/>

2: <https://livingwage.mit.edu/states/48>

3: <https://www.bls.gov/bls/blswage.htm>

4: Frey, Carl Benedikt, and Michael A. Osborne. "The future of employment: How susceptible are jobs to computerisation?." *Technological forecasting and social change* 114 (2017): 254-280.

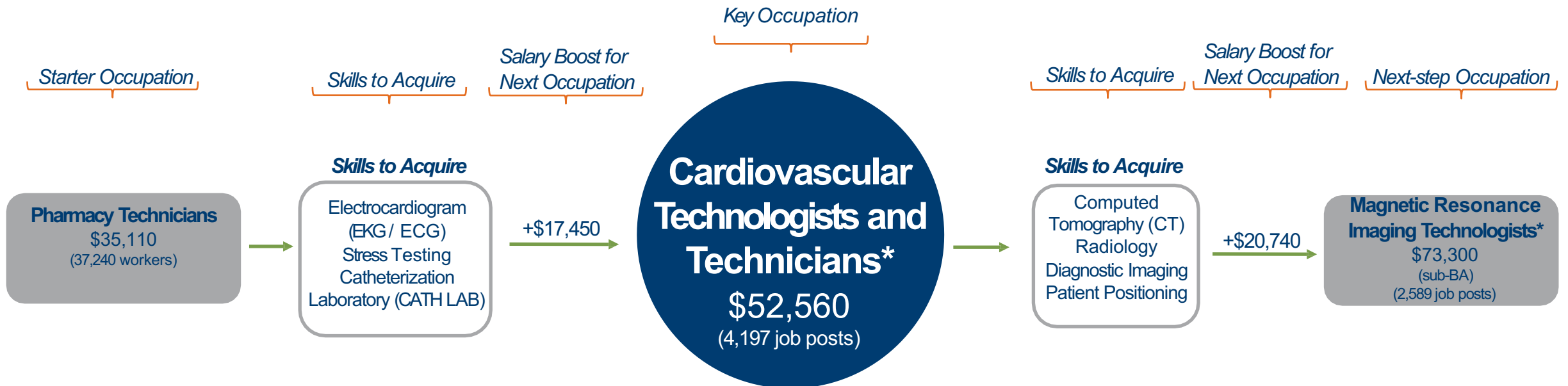
5: <https://www.twc.texas.gov/partners/target-occupations#overview>. Under resources: 'Statewide Target Occupations List', then 'Top 10 Targeted Occupation' tab



Texas Success Center

Phase 1: Understanding Career Pathways

- Burning Glass uses its vast database of job descriptions, occupations, and skills to map plausible career pathways from starter to next-step occupations.
- The pathways analysis considers:
 - Job similarity and skill overlap between occupations
 - Education and experience requirements
 - Once jobs have been mapped using this analysis, we consider other factors, such as salary, to create upwardly mobile pathways.
 - Salary data is based on BLS data for Texas using median salary
- By understanding the similarities between occupations, BGT recommends pathways that build upon the knowledge and skills acquired in the previous role.
 - As such, pathways are a blueprint that educational institutions can use to efficiently upskill workers.



Profile: Statewide

Key Occupation: Cardiovascular Technologists and Technicians*



Texas Association of
Community Colleges

4,197
Job Postings

Dec 1, 2019 - Nov 30, 2020



\$52,560

Median Salary

*Based on BLS data for
Texas*

16%

Projected Growth

*Estimated growth in
employment, 2020-2030*

85%

Entry Level

*Percent of job postings calling for
0-2 years of experience*

10%

BA+ Level

*Percent of job postings
calling for a BA or higher*

23% (Low)

Automation Risk

*Based on Osborn and Frey's
methodology*



Top 5 Specialized Skills

1. Cardiopulmonary Resuscitation
2. Patient Care
3. Electrocardiogram
4. Cardiology
5. Catherization Laboratory (Cath Lab)

Top 5 Certifications

1. First Aid CPR AED
2. Basic Life Saving (BLS)
3. Advanced Cardiac Life Support Certification
4. Basic Cardiac Life Support Certification
5. American Registry of Radiologic Technologists Certification

Top 5 Employers

1. Hospital Corporation of America
2. Christus Health
3. Baylor Scott & White Health
4. Texas Health Resources
5. Houston Methodist

**This occupation is
important to the
following industries:**

Health Care and Social Assistance
Professional, Scientific, and Technical Services
Other Services (except Public Administration)

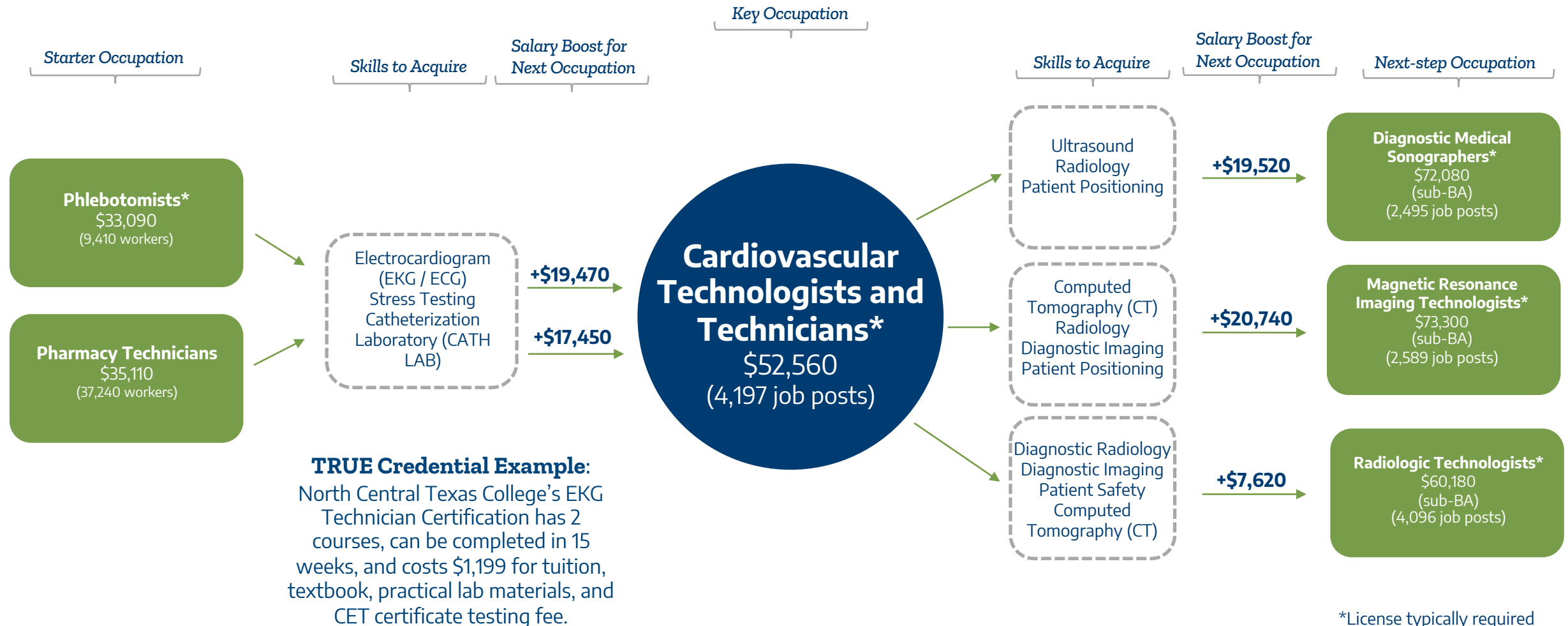
**License typically required*

TRUE Pathways Map

Industry Area of Study: Health Sciences



Texas Association of
Community Colleges



Profile: Statewide

Key Occupation: Heating, Air Conditioning, and Refrigeration Mechanics and Installers*+



Texas Association of
Community Colleges

9,235
Job Postings
Dec 1, 2019 - Nov 30, 2020



\$45,510
Median Salary
*Based on BLS data for
Texas*

16%
Projected Growth
*Estimated growth in
employment, 2020-2030*

38%
Entry Level
*Percent of job postings calling for 0-2
years of experience*

0%
BA+ Level
*Percent of job postings
calling for a BA or higher*

65% (Med)
Automation Risk
*Based on Osborn and Frey's
methodology*

Top 5 Specialized Skills

- 1. HVAC
- 2. Repair
- 3. Plumbing
- 4. Ventilation
- 5. Predictive/Preventative Maintenance

Top 5 Certifications

- 1. Drivers License
- 2. Environmental Protection Agency Certification
- 3. EPA/CFC/HCFC Certification
- 4. North American Technician Excellence (NATE)
- 5. Occupational Safety and Health Administration Certification

Top 5 Employers

- 1. Sears
- 2. TDindustries
- 3. Lochridge Priest Industries
- 4. Johnson Controls Incorporated
- 5. Cxc Talent Solutions



**This occupation is
important to the
following industries:**

Construction
Manufacturing
Retail Trade

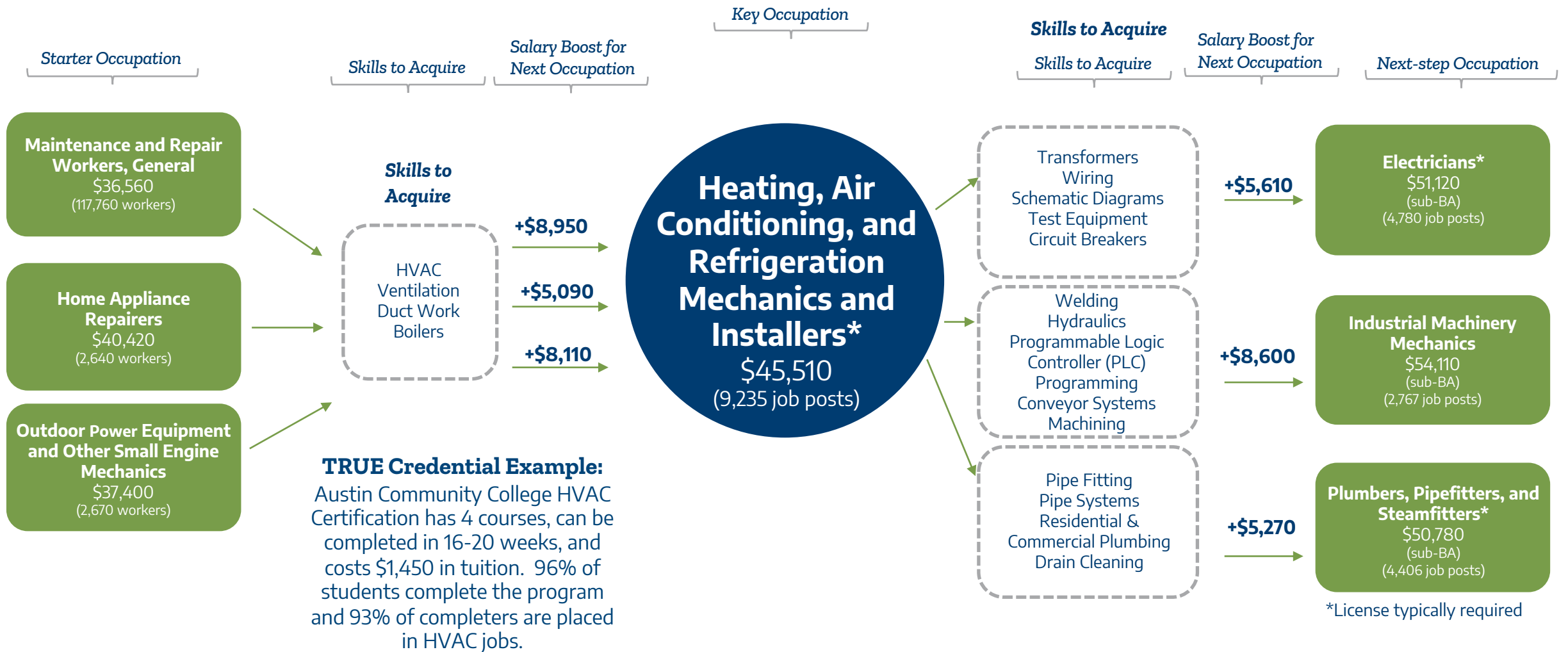
*License typically required
+Texas Workforce Commission
Target Occupation

TRUE Pathways Map

Industry Area of Study: Design, Manufacturing, Construction & Applied Technologies



Texas Association of
Community Colleges



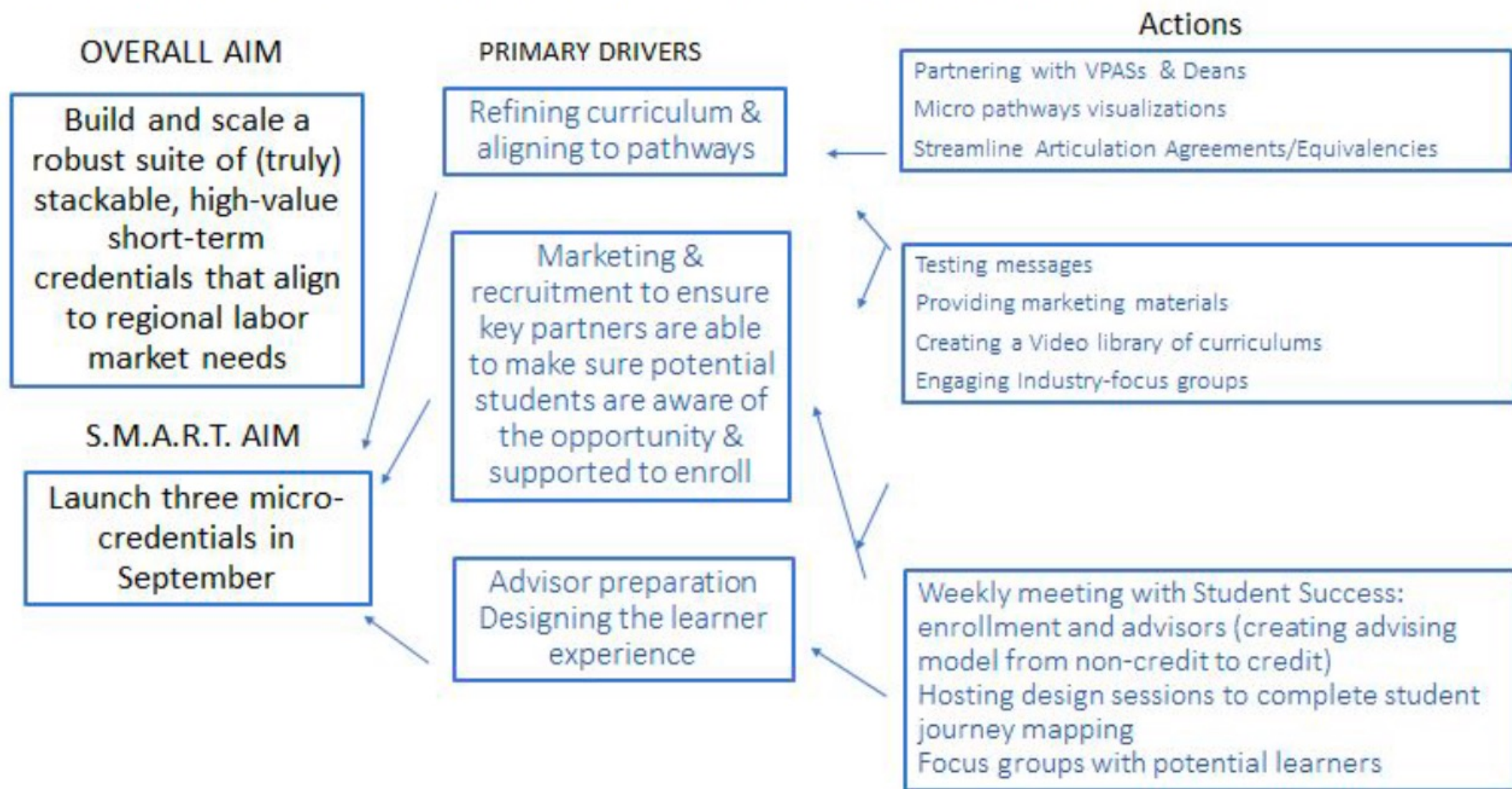


Texas Success Center

Phase 1: Impact

Driver Diagram Discussion Starter for TRUE colleges:

What's Your Focus, What's the Work to Be Done between Now & September?





TRUE Pathway

Logistics Technician

ASSOCIATE OF APPLIED SCIENCE

Logistics and Manufacturing Technology AAS

LEVEL 1 CERTIFICATE

Logistics Distribution Technician Certificate

FAST-TRACK CE

Logistics Technician

The Logistics Technician TRUE Pathway is built on stackable, workforce credentials with employment and advancement opportunities in the local economy.

Fast-Track CE Occupation Opportunity

INDUSTRIAL TRUCK AND TRACTOR OPERATORS

Median Salary > \$35,218



CE Non-Credit + Certifications

FAST-TRACK CE

Logistics Technician

CNSE 1003 Forklift Operator Certification

OSHT 1000 Basic Safety and Health

MSSC Certified Forklift Technician (CFT)

OSHA 10 Certificate

LMGT 1019 Intro to Business Logistics

LMGT 1021 Intro to Materials Handling

MSSC Certified Logistics Associate (CLA)

LMGT 1025 Warehouse and Distribution Center Management

MSSC Certified Logistics Technician (CLT)

LMGT 1040 Contemporary Logistics Issues

IBUS 1000 Global Logistics Management

BMGT 2084 Experiential Learning



MSSC Certified Forklift Technician (CFT), Certified Logistics Associate (CLA), and Technician (CLT)

Level 1 Certificate Occupation Opportunity

FIRST-LINE SUPERVISORS OF PRODUCTION AND OPERATING WORKERS

Median Salary > \$62,088



Up to 18 Credits Articulated CEU

LEVEL 1 CERTIFICATE

Logistics Distribution Technician Certificate

LMGT 1319 Intro to Business Logistics

LMGT 1321 Intro to Materials Handling

MSSC Certified Logistics Associate (CLA)

LMGT 1325 Warehouse and Distribution Center Management

MSSC Certified Logistics Technician (CLT)

LMGT 1340 Contemporary Logistics Issues

IBUS 1300 Global Logistics Management

BMGT 2384 Co-Op in Operations Management & Supervision

or LMGT 2334 Principles of Traffic Management

FAST-TRACK CE



Associate of Applied Science Occupation Opportunity

TRANSPORTATION, STORAGE, AND DISTRIBUTION MANAGERS

Median Salary > \$97,115

18 Credits Articulated CEU + 3 Earned Credits + 39 Credits
[Total 60 Credit Hours]

ASSOCIATE OF APPLIED SCIENCE

Logistics and Manufacturing Technology AAS

7 Courses Specialization

LMGT 2330 International Logistics Management

ENGL 1301 Composition I

MATH 13xx College Algebra or Elem Stats or Math for Business & Social Sci

SPCH 13xx Speech of Public Speaking

Elective Humanities/Fine Arts

ECON 2301 Principles of Microeconomics

or ECON 2302 Principles of Macroeconomics

LEVEL 1 CERTIFICATE

FAST-TRACK CE

SB1102 and TRUE Program Uses

By statute, funding for TRUE must be used to:

- Support **industry-aligned, high-demand** postsecondary workforce credentials or industry certifications in growing occupations that can be completed in 6 months or less;
- Provide training through **existing, new, or redesigned programs** focused on high-demand skills and leading to workforce credentials or industry certifications in growing occupations;
- **Expand institutional capacity** to provide stackable postsecondary workforce and industry certifications in high-demand pathways;
- **Provide student aid awards** to incentivize enrollment and completion of industry-aligned, high-demand postsecondary workforce credentials and industry certifications; and
- **Cover the cost of tracking and reporting** enrollment, credential completion, and employment outcomes of students

Accelerating the Production of High Value Credentials

Additional GEER Funding July 2021:

\$25 million - TRUE Program Start Up

Purpose:

Institutional capacity building to rapidly create, redesign and expand education and training programs in high value occupations that are tightly aligned with employer and industry needs.



Texas Success Center

Phase 2: Regional Labor Market Insights

A Look Under the Hood: Target Index



Typical
education



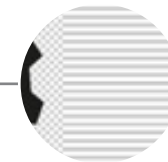
Unique job postings
& number of jobs



10th percentile &
median earnings



Regional and state
Location Quotient



Automation
Index



5-year & 10-
year projections

Regional Labor Market Snapshots



East

Electrical and Electronics Repairers

Physical Therapy Assistants

Surgical Technologists

Dental Hygienists

Industrial Engineering Technologists and Technicians



North

Aircraft Mechanics and Service Technicians

Insurance Appraisers, Auto Damage

Dental Hygienists

Architecture and Civil Drafters

Paralegals and Legal Assistants

Regional Labor Market Snapshots



Central

Computer User Support Specialists
Industrial Engineering Technologists and Technicians
Telecommunications Equipment Installers and Repairers
Computer Network Support Specialists
Licensed Practical and Vocational Nurses



Southeast

Cardiovascular Technologists and Technicians
Dental Assistants
Diagnostic Medical Sonographers
Calibration Technologists and Technicians
Computer Network Support Specialists

Regional Labor Market Snapshots



West

Heavy and Tractor-Trailer Truck Drivers
Radiologic Technologists and Technicians
Health Information Technologists
Electrical and Electronic Engineering Technologists
Respiratory Therapists



South

Web Developers
Fire Inspectors and Investigators
Occupational Therapy Assistants
Licensed Practical and Vocational Nurses
Computer Network Support Specialists



Texas Success Center

Phase 2: Regional Labor Market Insights:
Coming Soon!

Thank you!



Kristina Flores, MS, PhD(c)
kflores@tacc.org



Texas Association of Community Colleges
<https://tacc.org/>



Texas Success Center
<https://tacc.org/tsc>



Texas Success Center