

# **Report on Texas Education and Workforce System**

Ensuring Texas' economic growth through a world-class workforce and education system for all Texans

*January 2021*

## Introduction

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During the fall of 2020, Aim Hire Texas (AHT), a statewide coalition led by Texas 2036 and the Commit Partnership, engaged with Boston Consulting Group (BCG) to develop a fact base and accompanying strategy to align Texas' talent with future workforce needs and promote attractive and enduring jobs for Texans.

To accomplish this effort, BCG:

- Conducted more than 50 interviews with government, nonprofit, education, and private sector stakeholders,
- Built a comprehensive workforce projections model linking supply (employees) and demand (jobs) data to understand current and future workforce needs and anticipated gaps,
- Assessed skills needs of growing jobs and Texas' pathways effectiveness at delivering those skills,
- Inventoried all workforce-related initiatives in Texas, and
- Benchmarked peer states and several countries for best and promising practices in workforce initiatives.

Based on those activities, this report to Aim Hire Texas provides the findings in six sections:

- Executive Summary: a brief summary of the findings and solutions
- Historical Context: an overview of the historical and current state of Texas' workforce
- Vision for the Future: what Texas could look like with a world-class workforce and education system
- Key Problems to Address: the main challenges of the current workforce and education system
- Solutions: actions to build toward the vision for Texas and where to start
- Call to Action: how different Texas actors can get involved

## Executive Summary

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Texas has experienced sustained growth over the past three decades, but that growth is at risk as more jobs require a postsecondary credential and in-migration slows. New workforce models, an accelerated pace of change, and increased economic uncertainty have all been exacerbated by COVID-19, which has put millions of Texans out of work. These factors make it more critical than ever for the state to align its education and workforce systems, respond quickly to changing market trends, and actively involve employers in talent development to ensure Texans are equipped with the necessary knowledge and skills to prosper in the Texas of the future.

Aligning Texas' talent with workforce needs will benefit individuals, educators, employers, and the state:

- **Stronger Households:** Growing the number and percentage of Texans earning a living wage
- **Shared Prosperity:** Increasing the likelihood that Texans of all backgrounds earn a living wage
- **Current Employers Thrive:** Improving Texas employers' access to a trained labor force
- **State Uses Talent:** Attracting new employers to the state to access Texas talent

Closing the knowledge and skills workforce gap will also create long-term economic benefits and could **increase total annual household earnings for Texas by \$31B annually**, which is a 5% increase in annual GDP.

There are several key problems to address to improve Texas' education and workforce systems:

1. The state does not have sufficient data linked across the education and workforce systems to guide educators on how best to prepare students for the workforce, to guide policy makers on the creation of effective legislation, or to provide easy-to-use tools for Texans to find and prepare for attractive jobs.
2. Across the education and workforce systems, there is not a solid understanding or cataloging of skills, and current pathways do not put enough emphasis on gaining high-quality, relevant skills during credential attainment.
3. State systems are struggling to keep programs, pathways, and incentives aligned to fast-changing workforce needs.
4. While employers are a key beneficiary, they are underutilized in state strategy and solution formation.

Recommendations across 6 Key Drivers address the challenges in the Texas education and workforce systems and aim to build a Texas stronger in educational attainment, talent development, and living-wage attainment.

1. **ORGANIZE FOR SUCCESS:** Align state structures and governance across education, workforce, and economic development
2. **STRENGTHEN STRATEGIES:** Strengthen and align state and regional workforce development strategies, data, priorities, and targets
3. **MOBILIZE RESOURCES TO ACTION:** Leverage funding to incentivize action toward state targets (for example, living-wage attainment and equitable outcomes)
4. **GROW & INNOVATE PATHWAYS:** Launch new programs to build a representative, diverse talent supply to meet demand and shape future workforce
5. **INVEST IN TECHNOLOGY & INFORMATION:** Grow latest technology and tools that can inform and empower job seekers and support employers in finding and building Texas talent
6. **FOSTER EMPLOYER ENGAGEMENT:** Broaden the way that employers engage and recruit talent

To equip Texans with the best data, tools, pathways, and support to improve education and workforce outcomes, all stakeholders in Texas education and workforce need to act quickly and organize around a common, high-level strategy and shared metrics. The specific execution of the strategy will vary by region, but

alignment is necessary to enact an expedited, statewide effort to get Texans back to work now and help set up all Texans to get and keep living-wage jobs.

## **Historical Context**

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Although Texas has achieved impressive economic growth, employers have unmet needs and too many Texans are not earning a living wage, which could limit continued growth.

### **Texas has seen strong economic growth over the past few decades**

Texas has a large economy—if the state were a nation, it would be the ninth-largest economy in the world.<sup>1</sup> It has achieved sustained strong economic growth over the past three decades,<sup>2</sup> with its ample workforce and its low-tax, business-friendly environment contributing to it being one of the top ten states in annual GDP growth for 12 of the last 22 years.<sup>3</sup> Having an adaptive, skilled workforce aligned with ever-changing employer needs will be critical for the state’s continued economic growth.

### **This growth is at risk with the accelerated pace of workforce trend changes**

COVID-19 has accelerated new workforce trends, including: new employment models that will change how employers source and connect to employees, adoption of digital tools and increased acceptance of telework that will change how and where people work, and advancement in automation that will increase productivity and permanently eliminate many jobs while creating fewer new jobs. These trends will require an agile workforce that can reskill quickly and adapt to changing employer needs.

### **To continue to grow, workers must be trained to meet the needs of employers**

Many high-demand, living-wage jobs in Texas already require postsecondary credentials, and even more jobs are expected to require them in the future. It is estimated that by 2036, 71% of jobs in the state will require education beyond high school, yet out of the 343,471 students in eighth grade in Texas public schools in 2008, only 23% had graduated from college by 2019—six years after their scheduled high school graduation.<sup>4</sup> Not only is this far below what the state needs, it also represents a suboptimal return on the substantial investment made by Texas in its K-12 and higher-education systems. More Texans entering the workforce earning relevant certificates, associate’s degrees, and bachelor’s degrees will help ensure workforce needs are met. Also vital to meeting employer needs is the continuous upskilling and reskilling of the current workforce. To meet short- and long-term market needs, it is critical that Texas’ workforce adopt a continuous learning and upskilling approach, whether through federal or state-funded workforce development programs, third-party trainings or credentials, training while earning a degree, or employer-provided training.

### **Employer needs have in part been met by a substantial in-migration of educated workers, but the state cannot count on a continued inflow of educated talent**

Historically, nearly half of the Texas workforce has come from other countries and states, and half of these individuals already have a bachelor’s degree or higher. As a result, they are more likely to fill higher-wage jobs. However, this trend is slowing as the number of people moving to Texas for work is declining.<sup>5</sup> Given this decline and the growing job requirement of postsecondary education, it is critical that Texas increases the number of students earning certificates, associate’s degrees, or bachelor’s degrees. Although not a focus of this report, it will also be important to reverse the slowing migration trend and continue attracting educated talent to Texas to meet employer needs.

## **Texas needs to develop its talent to ensure continued economic growth and reduce the costs of underemployment**

Not enough Texans are earning the credentials needed to get onto living-wage job career pathways. Fewer Texans obtain postsecondary degrees than the Texas job market demands, and those that do are often going into occupations misaligned with their degrees; only 14% of bachelor's degree holders in Texas are employed in an occupation in their field of study.<sup>6</sup> Texas also lags peer states in K-12 and postsecondary educational attainment, with persistent achievement gaps in the state based on income, race, and geography.<sup>7</sup> Today the state is producing 2.5 million Texans ages 25 to 34 without an associate's degree or higher—a group larger than the entire population of 15 different states. Because higher educational attainment leads to lower unemployment and higher earnings, it is critical to improve postsecondary attainment, improve the rate at which Texans complete the credentials they start, and close educational equity gaps to give more Texans a better chance at a living wage.

A bachelor's degree of any kind typically leads to better earnings, but having a degree matched to occupation leads to even higher earnings on average. Therefore, the state should push for both higher credential attainment and more-relevant credentials to meet employer needs. The push for more-relevant credentials must extend beyond degrees to include trainings and certificates, as these are a faster, more affordable way to upskill or reskill for many professions. The Tri-Agency has broadly recognized the importance of getting more Texans marketable skills in its 60x30TX plan<sup>8</sup>, which is an important first step, and it is updating the 60x30TX goals. Adding more concrete, employer-verified criteria to determine which skills (soft skills, technical skills, general job skills, etc.) count as marketable for which occupations will be important in ensuring this goal drives meaningful change in the number of job-ready skilled Texans.

## **Challenges are magnified for people of color, with stark inequities in credentials and living wage**

Of Texans ages 25 to 34, white Texans are twice as likely as Hispanic Texans and 1.5 times more likely than African American Texans to have a certificate or degree.<sup>9</sup> Demographic trends project growth in the populations that are currently least likely to earn postsecondary credentials. The state needs to create more-equitable access to education and workforce opportunities to improve outcomes for all Texans and avoid leaving an even larger portion of the population underprepared to earn a living wage.<sup>10</sup>

## **Texas workforce and education systems need updating**

In 1993 a variety of training programs operated across multiple Texas state agencies united to create the Texas Workforce Commission. This important step in coordinating state workforce efforts happened nearly 30 years ago, and another restructuring is now needed to respond to major shifts in the education and workforce landscape since then. Governor Abbott established the Tri-Agency Initiative in 2016 with the aim of linking education and industry to help grow the Texas economy.<sup>11</sup> While this has led to increased coordination, the development of statewide priorities and targets in the 60x30TX plan, and two Tri-Agency reports, much work still remains to materialize collaboration in strategy, data sharing, and resource sharing across the agencies.

## **Adaptable education and workforce development systems are critical for future Texas workforce**

Without an improved higher education and workforce development system, quickly changing skill requirements and increasing educational requirements for jobs could lead to Texas' further reliance on out-of-state talent to fill employer needs. In turn, this could increase time for Texas employers to fill positions, cause greater reliance on other states' workforce and education systems to fuel Texas gross state product growth, and a continuation of the trend of out-of-state talent filling many of the higher-paying jobs in Texas.<sup>12</sup>

## Vision for the Future

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New workforce models, an accelerated pace of change, and increased economic uncertainty make it even more critical for the state to align its education and workforce systems, respond quickly to changing market trends, and actively involve employers in talent development to ensure Texans are equipped with the right knowledge and skills to shape and prosper in the Texas of the future.

Texas has the opportunity to not only align Texas' talent with workforce needs of the future but also to make its workforce development approach a strategic advantage, ensuring continued economic growth for the state for decades to come.

### Aligning Texas' talent with future workforce needs could bring many benefits

Closing the workforce gap creates a flywheel effect of long-term economic benefits:

- **Business growth:** With the right talent available and ready to work in the most relevant jobs, Texas businesses can continue to grow, and new employers can move to Texas and fulfill their talent needs
- **Labor growth:** More people will be gainfully employed if they have relevant skills for their local labor market; more people will enter and remain in the labor force if jobs are attractive and if there are opportunities for upskilling, job security, and mobility
- **Adaptability to change:** When education and workforce development institutions regularly engage with employers, they can quickly respond to labor demands
- **Competitive advantage:** If Texas plans for projected workforce demands, it can build surplus supply for high-demand jobs and skills to give the state a competitive advantage over other states to win business

### Four goals to measure Texas' progress against this vision

- Growing the percentage of Texas households earning a living wage by 10% will result in **1.2 million additional Texas households earning a living wage** (from 56% of households in 2018 to 66% in 2036<sup>13</sup>), building a future Texas with **stronger households**.
- Increasing the likelihood of any Texas household to earn a living wage to be equal to the likelihood of a white Texas household earning a living wage will bring **shared prosperity** for Texans of all backgrounds.
- Decreasing the talent gap for priority jobs in Texas and decreasing the time required for Texas employers to fill an open position will help **current employers thrive** with Texas' talent asset.
- Attracting new employers to the state to access the increasingly educated and skilled Texas talent supply will mean the **state uses talent** to strategically bring new jobs to Texas.

### Significant value in Texas achieving these goals and realizing this vision

Ensuring Texas' economic growth through a world-class workforce and education system for all Texans could unlock significant value for the state.

Closing Texas' workforce gap would contribute directly to the state's GDP through higher employment, earnings, and tax revenue. In 2036, Texas is projected to have approximately 38 million residents and 12 million households.<sup>14</sup> Achieving the goals above would result in 1.2 million additional households earning a living wage and at least a **\$31 billion increase in total annual household earnings for Texas—a 5% increase in annual GDP**.<sup>15</sup>

## Key Problems to Address

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There are four problems Texas must address to improve its education and workforce system. This section explores these problems, with additional emphasis sections on how these problems are exacerbated for rural communities and from an equity lens.

For each section, supporting evidence is presented in three subsections: key findings, what others are doing, and promising work in Texas. Following the exploration of problems, recommended solutions are outlined. Since many of the solutions will address multiple problems, there will not be a one-to-one mapping of problem-to-solutions. Instead, the full set of recommendations will collectively address all outlined problems.

### 4 Key Problems to Address

1. The state does not have sufficient data linked across the education and workforce systems to support educators in preparing students for the workforce, to guide policy makers on the creation of effective legislation, or to provide easy-to-use tools for Texans to find and prepare for attractive jobs.
2. Across the education and workforce systems, there is not a solid understanding or cataloging of skills, and current pathways do not put enough emphasis on gaining high-quality, relevant skills during credential attainment.
3. State systems are struggling to keep programs, pathways, and incentives aligned to fast-changing workforce needs.
4. While employers are a key beneficiary, they are underutilized in state strategy and solution formation.

### Summary of key findings across problems to address

Key Problems to Address	Key Findings
The state does not have sufficient data linked across the education and workforce systems to support educators in preparing students for the workforce, to guide policy makers on the creation of effective legislation, or to provide easy-to-use tools for Texans to find and prepare for attractive jobs.	<ul style="list-style-type: none"> <li>• Data is not fully linked across the education and workforce systems.</li> <li>• Data is not shared publicly in easy-to-use ways to help students, job seekers, employers, education and skills providers, or policy makers make decisions around jobs and skills.</li> <li>• It is difficult for individuals to determine from publicly available information which jobs are good, growing, and provide a living wage, and what skills and credentials are needed to obtain those jobs.</li> <li>• It is also hard to effectively model supply and demand from existing data and tools to understand where the state has talent gaps to fill.</li> <li>• Individuals spend years working toward and go into debt getting postsecondary degrees to enter fields with low return on investment or occupations unrelated to their degrees.</li> </ul>
Across the education and workforce systems, there is not a solid understanding or cataloging of skills, and current pathways do not put enough emphasis on gaining high-quality,	<ul style="list-style-type: none"> <li>• New skills are being demanded at a faster pace of change than ever before.</li> <li>• Learning journeys, curricula, and recruiting/hiring do not use a common skills language.</li> <li>• New alternative credentials are increasingly used by industries to fill gaps in skill development, but there is no system in place to verify the quality of credential providers.</li> </ul>

relevant skills during credential attainment.	<ul style="list-style-type: none"> <li>• Texas lags peer states in the development of apprenticeships and other work-based learning opportunities, despite employers citing the value of these programs.</li> </ul>
State systems are struggling to keep programs, pathways, and incentives aligned to fast-changing workforce needs.	<ul style="list-style-type: none"> <li>• The Texas Tri-Agency brings together three key workforce and education agencies but has no “muscle”—it does not direct money or have decision rights, and it has limited and informal shared accountabilities and reward mechanisms.</li> <li>• The state workforce funding structure is complex and flows through many agencies, and future funding is not rooted in results for program participants.</li> <li>• Texas has not historically measured longitudinal outcomes, like relevant job retention and earnings over time, and the performance targets are set much lower than those of peer states.</li> </ul>
While employers are a key beneficiary, they are underutilized in state strategy and solution formation.	<ul style="list-style-type: none"> <li>• Despite being the primary beneficiary of the state’s workforce pipeline, employers are not consistently involved in statewide or regional strategy planning, goal setting, curriculum and pathway development, or performance evaluation of workforce development efforts.</li> </ul>

**Key Problem 1. The state does not have sufficient data linked across the education and workforce systems to support educators in preparing students for the workforce, to guide policy makers on the creation of effective legislation, or to provide easy-to-use tools for Texans to find and prepare for attractive jobs.**

**Key Findings**

***Data is not fully linked across education and workforce and is not publicly shared in easy-to-use ways to help students, job seekers, employers, or policy makers make decisions around jobs and skills.***

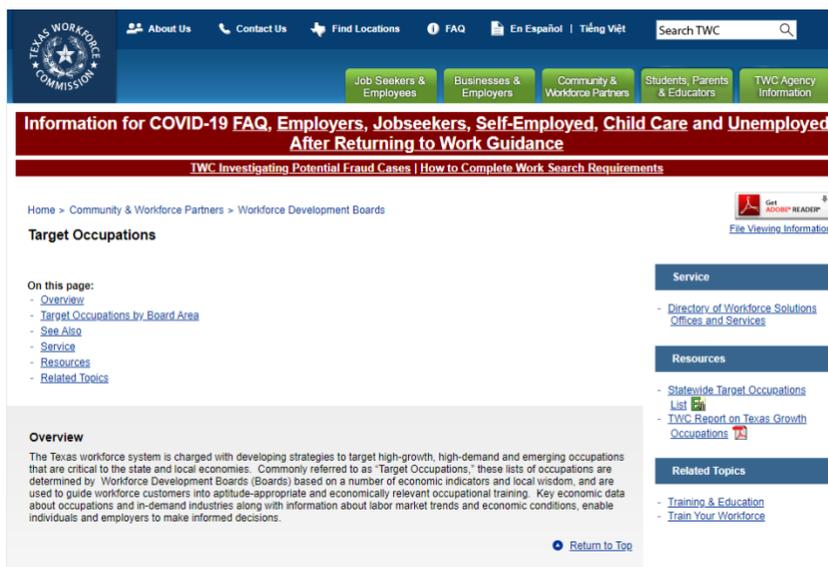
Texas’ education and workforce data is stored across many data systems and PDFs, most of which are housed on the websites of the Texas Education Agency (TEA), the Texas Higher Education Coordinating Board (THECB), and the Texas Workforce Commission (TWC). These websites contain informative data and studies, but the information is disaggregated across different-looking websites, similar-sounding tools, and separate data sets (some of which are accessible only by reading through PDFs). Having the data stored this way makes it difficult for users—job seekers, employed adults, students, advisors, parents, educators, alternative credential providers, employers—to find the right tools and the right data in a timely manner to inform their actions and decisions.

Data is also not well linked across TEA, THECB, and TWC. Texas does not have a common data source that allows a person, for example, to pick any public high school, look at the class of 2006, and see their five, ten, and 15-year average earnings to determine what percentage of the class is earning a living wage. A person cannot look across the past ten years of graduates from a state-funded commercial driving training program and see what percentage of graduates from each year are currently in a relevant occupation and earning above a living wage. A stronger linkage of education and workforce data and measurement of common metrics would allow the state to adjust programs and investments that aren’t leading to desired outcomes and to expand those that benefit Texans and better demonstrate program success and a positive return on investment.

***It is difficult for individuals to find out from publicly available information which jobs are good, growing, and provide a living wage, and what skills and credentials are needed to obtain those jobs.***

The state jobs prioritization process is limited. Its focus is on “in demand” jobs as defined by each of the 28 workforce development areas (WDA) in its Target Occupations list, with no clear evidence of criteria like job attractiveness, upward mobility, or strategic interest for the state being factored in.<sup>16</sup>

TWC builds the state Target Occupations list by combining the 28 WDAs’ Target Occupations lists into one mega-list. An overall strategy or statewide quality measures (for example, assessing living wage for these occupations) do not appear to be used in the formation of the regional lists that make up the state Target Occupations list.



The overview on TWC’s Target Occupations webpage states that the lists “are determined by Workforce Development Boards based on a number of economic indicators and local wisdom.”<sup>17</sup>

The downloadable Excel of the statewide Target Occupations list contains 1,235 unranked/unweighted job titles (272 of them unique) submitted by all 28 WDAs and listed in alphabetical order by WDA. The Excel also provides a “Top Ten Occupations” list, which is determined by how many times a job

title appears in WDA lists, without weight for relative priority within each WDA list or for any other criteria.

***It is also hard to effectively model supply and demand from existing data and tools to understand where the state has talent gaps to fill.***

In the state’s Workforce Innovation and Opportunity Act (WIOA) combined plan for workforce development initiatives, TWC notes it does not “have enough data to adequately address skills gaps for specific occupations at the state or regional level”<sup>18</sup> and cites only anecdotal evidence of skill shortages. This is due to the complexity of the labor market and the difficulty of modeling all components of labor supply. The best tool that currently exists, the Gap Analysis report,<sup>19</sup> a collaboration between TWC and THECB, attempts to link supply and demand data to show gaps between estimated annual openings for a job and the number of graduates in fields related to that job. Several underlying data limitations make it hard to estimate the expected talent gap:

1. **Graduates mapped on theoretical ability to fill:** Graduates are mapped to jobs based on theoretical ability to fill using the National Center for Education Statistics’ (NCES) CIP-SOC Crosswalk, not actual paths taken by Texans. This inflates the supply estimates for jobs with more-general skill sets (for example, analysts or office admins) that could act as a supply for a job but may not reflect employers’ actual hiring practices.

2. **Graduates not adjusted for retention or participation:** These graduate numbers are not adjusted for retention (staying in the state) or participation (in labor force); some graduates may move out of state or continue their education and not immediately enter the workforce.
3. **Supply limited to postsecondary graduates and does not count alternative pathways:** The number of job openings reflects all job openings, including openings that arise from incumbent workforce transferring to other jobs, while supply only shows new postsecondary graduates as entrants. Pathways such as emerging alternative credentials, K-12 career and technical education (CTE) programs, or natural career paths/lattices are not taken into account, though they are likely providing supply to those jobs, therefore potentially overstating undersupply by comparing total openings to graduates only.
4. **Demand data limited on understanding of alternative work models:** Data reported does not distinguish part-time or contingent employment from full-time salaried jobs, and data around entrepreneurship or self-employment is only selectively included (for example, in growth reports but not in wage reports).

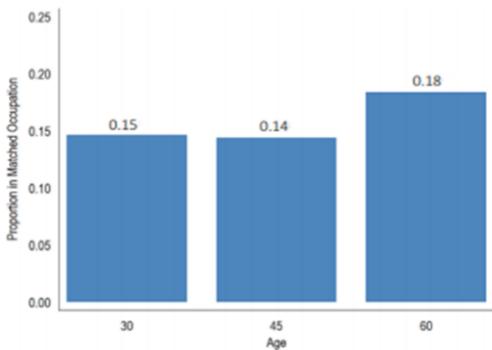
The modeling undertaken as part of this effort sought to overcome some of the above limitations with new tools and data to better estimate supply and demand, namely using the US Census Bureau's American Community Survey (ACS) Public Use Microdata Sample (PUMS) data<sup>20</sup> to map actual pathways of bachelor's degree holders into job type. Another Census Bureau tool, the Post-Secondary Employment Outcomes (PSEO) Explorer,<sup>21</sup> was used to understand retention and participation rates of graduates. However, little data exists to overcome the third challenge, as no robust data sets exist for those additional pathways.

Even with perfect data, projecting based on historical trends has its challenges, as there is much uncertainty around how recent trends will continue. For example, since 2011, significant improvements have been made across all races in improving educational attainment,<sup>22</sup> and we have assumed this rate of improvement will continue into the next ten-plus years. However, as alternative, skills-based pathways become increasingly prevalent and provide outcomes to good jobs, this trend may slow or reverse. All of this necessitates supplementing current state tools and data so that Texas can have a more robust, data-backed understanding of supply and demand in the state.

***Individuals spend years working toward and go into debt getting postsecondary degrees to enter fields with low return on investment or occupations unrelated to their degrees.***<sup>23</sup>

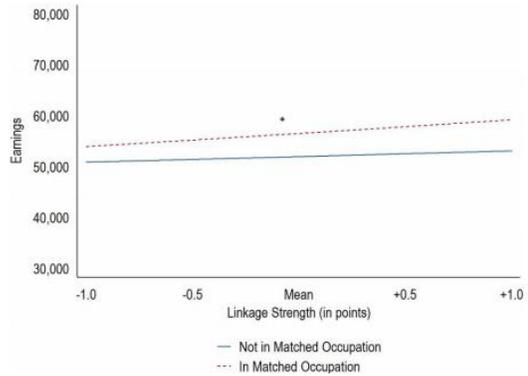
Only 14% of workers with a bachelor's degree or higher in Texas are employed in an occupation matched to their degree, according to a Kinder Institute study. The study also found a positive correlation between earnings and linkage strength of degree types and matched occupations. An individual with a degree strongly linked to a matched occupation (for example, an engineering degree is strongly linked to the occupation of engineer) is likely to have higher earnings than those with weak linkage in unmatched occupations. At the mean linkage, workers in matched occupations earned \$4,500 more per year than those in unmatched occupations.<sup>24</sup>

Proportion of Workers in Matched Occupations by Age



Above: Older workers were more likely to be in a matched occupation, but all age groups had less than 20% of the population in relevant roles.

Earnings by Linkage Strength and Match



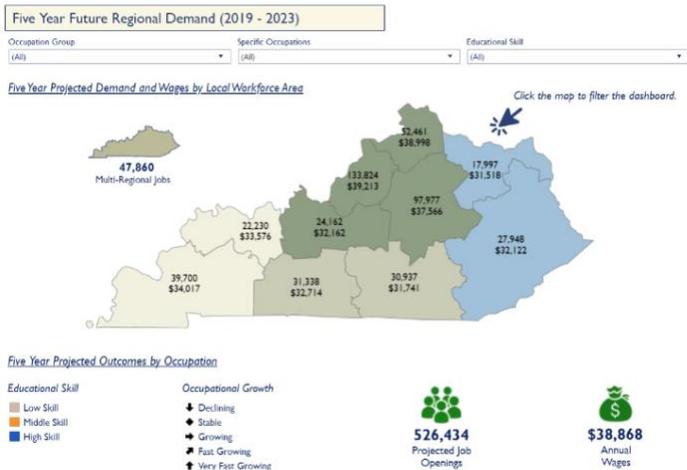
Above: Workers with a strongly linked degree in a matched occupation are likely to earn more than those in weakly linked, unmatched occupations.

The trend of Texans going into unmatched occupations may be reflective of students lacking a strong understanding of the pathways that lead to occupations they are interested in or which occupations are available in the city or town where they want to reside. This reflects a broader need to get specific, accurate, and timely information about occupations and pathways to students to help inform their decision-making.

### What Others Are Doing

**Other states have created career and labor market data tools that are user-friendly, with clear indications of priority occupations and a user's path to those jobs.**

**Kentucky:** The Kentucky Center for Statistics' website, KYSTATS, houses information on the state's labor market, career pathways, and priority and open jobs. KYSTATS is a data engine that links all facets of the workforce system, enables users to view clear data around outcomes, job prospects, and cradle-to-career data, informs state policy decisions, and provides transparency around use of funds and tax dollars.



Left: KYSTAT's interactive Kentucky Future Skills Report analyzes the total number of projected jobs in the state in the short-term future. Labor market projects are broken out by workforce areas and are also projected by job title, education level, and expected wages.

This level of information can be provided at both regional and occupation cuts because of data linkages at the state level across education and workforce data. Texas does not currently have the data linkages to support this view of job and skill projections linked to educational attainment across the state.

## Promising Work in Texas

### *Texas has promising work underway to improve data usability.*

The state has a lot of good data and several examples of bringing that data together via Tri-Agency reporting and tools, as well as data modernization efforts underway at individual agencies to make it more accessible to Texans. For example, THECB has partnered with the Brookings Institution to create a new data exploration tool called the Texas Workforce Development Toolkit.<sup>25</sup> It combines data from THECB, TWC, and Burning Glass (a data analytics company focused on job growth, skills in demand, and labor market trends) to create an interactive map of occupation data based on quality and demand by workforce area. TEA has received \$3.4M in Statewide Longitudinal Data Systems grant money to make improvements to its data infrastructure and public tools.<sup>26</sup>

In its most recent report, the Tri-Agency Workforce Initiative outlined that making “educational and workforce data accessible and useful to the public, stakeholders, and decision-makers” is part of its strategy.<sup>27</sup> To improve Texans’ ability to make informed education and career decisions, it is critical that this work happens at an accelerated pace, comprehensive of the full education-to-workforce spectrum and programs across Texas, and with usability central in the redesign.

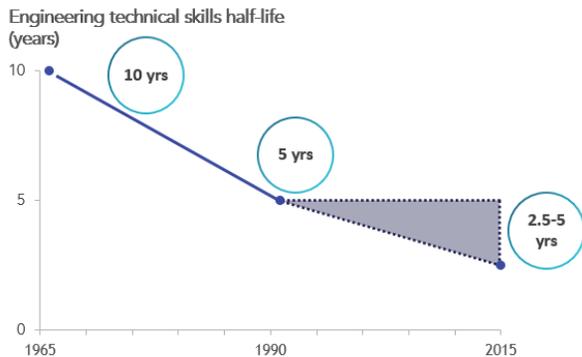
**Key Problem 2. Across the education and workforce systems, there is not a solid understanding or cataloging of skills, and current pathways do not put enough emphasis on gaining high-quality, relevant skills during credential attainment.**

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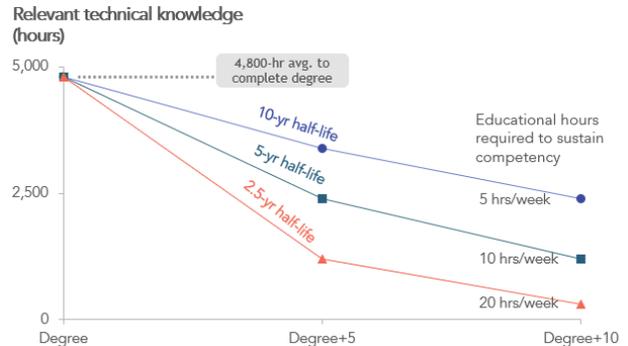
## Key Findings

### *New skills are being demanded at a faster pace of change than ever before.*

The speed at which skills and knowledge become outdated is increasing quickly, requiring additional reskilling/upskilling on the job for employees to keep up.<sup>28</sup> Technical skills become obsolete as often as every five years, as highlighted by the engineering example in the graphs below. In the 1980s, an engineering degree had a skills half-life close to ten years, requiring only about five hours per week of education to keep up with relevant technical knowledge. By 2015, the same engineering skills required ten to 20 hours of education per week due to the greatly reduced skills half-life.



*Above: The half-life of engineering technical skills has significantly decreased over the past 50 years.*



*Above: The decreasing half-life of engineering skills has led to an increase in the number of hours per week of education needed to keep up with relevant technical knowledge.*

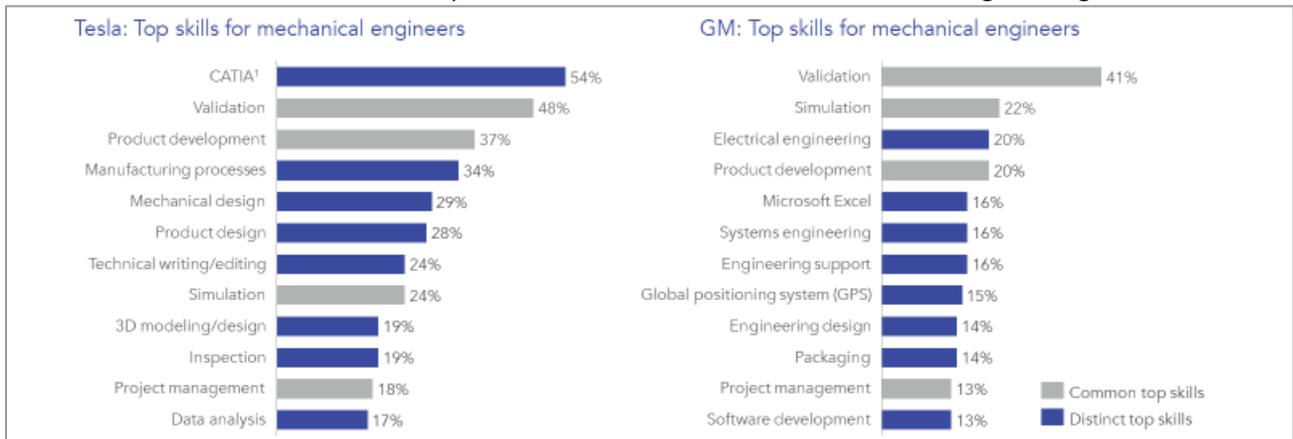
**Learning journeys, curricula, and recruiting/hiring do not use a common skills language.**

Without a common skills language and database, it is hard for prospective employees to ensure they are taking the right courses and trainings to prepare them for their desired jobs. It is also difficult for educators to aggregate skills needs across an industry or across multiple industries for a particular job type, which in turn makes it difficult to incorporate trainings for relevant skills into their curricula. There is no common Texas skills language, and even the skills hierarchy of the national Occupational Skills Network (ONET) is not necessarily consistent with how employers describe skills in job applications.



Left: ONET maps skills to jobs based on generic, national-level jobs profiles, like the epidemiologist profile shown here. Skills are not prioritized based on criticality or tailored by regional and employer-specific differences.

Even across similar roles, different employers use different language to describe skill requirements. This lack of common skills language contributes to the challenge that educators face in providing students with all of the required skills that employers must list for similar occupations. In the example below, a student would need 20 different skills to meet the top 12 skills for two automotive mechanical engineering roles.



Above: Tesla and General Motors have only four similar skills out of 12 for automotive mechanical engineers. Different descriptors used by employers for similar roles make it difficult for educators to prepare students with the right skill sets to meet multiple employers' job qualifications.

**New alternative credentials are increasingly used by industries to fill gaps in skill development, but there is no system in place to verify the quality of credential providers.**

Employers don't know how to value or verify the quality of certifications and credentials in applicants, nor do individuals know which alternative certifications can lead to good jobs. Employers like Google, IBM, and Amazon are creating their own alternative certification or training programs to ensure their talent needs are met with a sufficiently skilled pipeline. Texas, however, lacks a clear system to review the quality of alternative credentials and training programs or a central website where job seekers can learn about these opportunities in the state. Even for occupations where private certificates are widely recognized by

employers, like the Certified Construction Manager credential for construction workers,<sup>29</sup> Texas lacks a strong system for capturing this nondegree pathway information.

Texas has struggled to build a single repository of industry-recognized credentials. Each of the agencies in the Tri-Agency has collected portions of a credentials inventory, but they also acknowledge that they have not captured all credentials available and being used in the Texas labor market to signify attainment of skills or experience. Attempting this monumental task in silos has likely made it even more difficult. There are several private credential databases on the market—Credential Engine, Credential Finder, and ACE, to name just a few—that have established a strong foundation for credential information. The state can leverage this private data and the Tri-Agency’s collection of work on Texas-specific data. There is also an increased appetite among employers to find talent with relevant credentials, so the agencies are likely to have an easier time getting the necessary input from employers to validate a skills inventory, which they would no longer need to build from scratch.

***Texas lags peer states in the development of apprenticeships and other work-based learning opportunities, despite employers citing the value of such programs.*<sup>30</sup>**

Texas has a shortage of workers trained to fill middle-skill occupations, many of which are well suited to train apprentices (electrician, plumber, construction worker, etc.). Based on its comprehensive study of existing apprenticeships in the state, the Texas Workforce Investment Council (TWIC) has stated that getting more Texans into apprenticeships could help close this middle-skill supply gap.<sup>31</sup> As evidenced in testimony from the Texas 2036 Employer Roundtable (for more, see Key Problem 4 ), Texas employers across multiple industries have expressed interest in expanding apprenticeship programs and affirmed the value of training workers in this way.<sup>32</sup> Despite the evidence supporting the importance of expanding apprenticeships, and the willingness of employers, Texas lags peer states in the number of apprenticeships it offers as a percentage of total civilian labor force.

Texas & peers ranked by apprenticeships as a percentage of total civilian labor force

Rank	State	Apprentice % of total workforce	Active apprentices (thousands)	Civilian labor force (millions)
1	California	0.49%	94.8	19.5
2	Washington	0.47%	18.4	3.9
3	Ohio	0.36%	20.9	5.8
4	Pennsylvania	0.28%	18.2	6.5
5	Virginia	0.28%	12.3	4.4
6	Illinois	0.27%	17.2	6.4
7	North Carolina	0.21%	10.8	5.1
8	Colorado	0.20%	6.5	3.2
9	New York	0.20%	18.9	9.5
10	Georgia	0.17%	8.6	5.1
<b>11</b>	<b>Texas</b>	<b>0.15%</b>	<b>20.6</b>	<b>14.2</b>
12	Florida	0.12%	13.0	10.4

*Left: Texas is second lowest among comparison states in providing registered apprenticeships as a percentage of total civilian labor force.*<sup>33</sup>

## What Others Are Doing

**Other states and industry leaders are making strides in incorporating a common skills language and skills-based learning and hiring into their practices.**

**Colorado:** Colorado, in partnership with the Markle Foundation’s Skillful initiative, is building skills-based career pathways into the state education system and employer hiring practices via My Colorado Journey.



Above: The My Colorado Journey occupation finder tool lets users search occupations by title, education level, career cluster, or salary.

Above: Each occupation on the My Colorado Journey occupation finder tool includes specific job outlook, recommended skills, and pathway/program information for how to get the job.

**Business Roundtable:** Business Roundtable (BRT), an organization of CEOs of leading US companies, has made a commitment to place greater emphasis on skills in hiring and advancement. More than 80 BRT companies are participating in this effort to better recognize and evaluate skills of all job seekers and to develop internal training programs to help upskill their employees.<sup>34</sup>

*“We need to ensure that we offer new and diverse on-ramps to careers. For example, if someone without a degree has an interest in and an aptitude for our work, can we offer training and a pathway to be hired? If a current employee wishes to advance, can we support upskilling or reskilling?”*

Mary Barra, Chairman and CEO of General Motors, BRT member

Committed actions include rewriting job descriptions with a skills focus, publishing transparent job advancement pathways for current employers, and creating new training modules to teach current employees the necessary skills to reach the next milestones in their pathway.

## Promising Work in Texas

**Several groups in Texas are tackling aspects of improving the understanding and cataloging of skills and better aligning skills with pathways, though a broader statewide solution is still needed.**

**TSTC:** SkillsEngine, an affiliate of Texas State Technical College, is using the Calibrate engine to develop employer-verified, skills-based curricula and a shared skills language.<sup>35</sup> Calibrate helps build customized job profiles, tests the required skills with industry experts and employers, and then works with educators across the state to help align curricula to the skills listed in job profiles. The TEA is using Calibrate to refine the career and technology education (CTE) course catalog by engaging Texas employers to verify the required skills listed in job profiles.

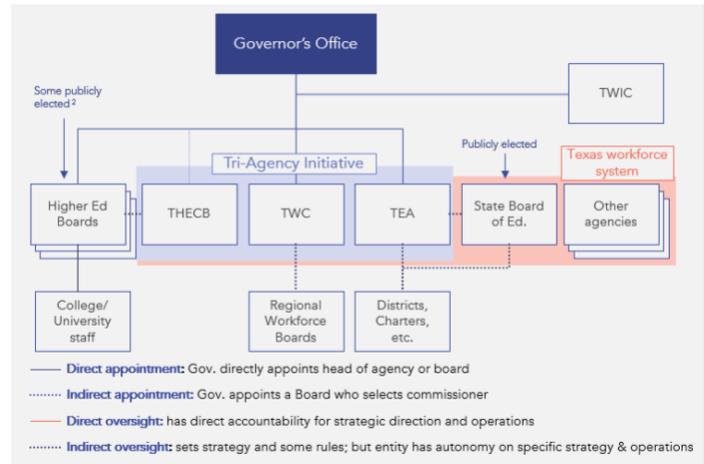
**Key Problem 3. State systems are struggling to keep programs, pathways, and incentives aligned to fast-changing workforce needs.**

**Key Findings**

**The Tri-Agency brings together three key workforce and education agencies but has no “muscle”—it does not direct money or have decision rights, and it has limited and informal shared accountabilities and reward mechanisms.**

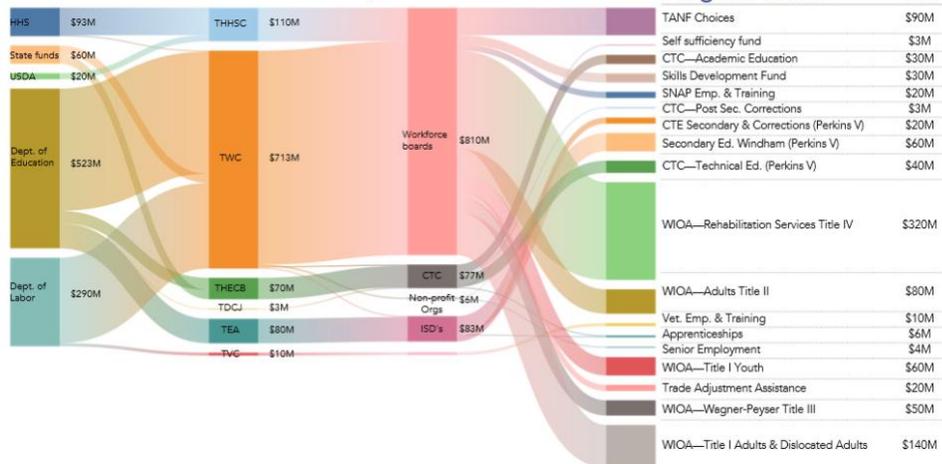
The current setup that the statewide Tri-Agency and two regions use for workforce and education structures is complex and does not fully address Texas’ needs. There is no formal unifying accountability structure across the THECB, TWC, and TEA, and no dedicated resources linking them, so potential synergies across the agencies are limited. The different regional structures make coordinating shared education and workforce strategies and goals across regional boundaries inefficient.

**The state workforce funding structure is complex and flows through many agencies, and future funding is not rooted in results for program participants.**



Approximately 70% of Texas’ workforce funding flows from the federal government, through TWC, to regional workforce boards for the operation of a variety of programs.

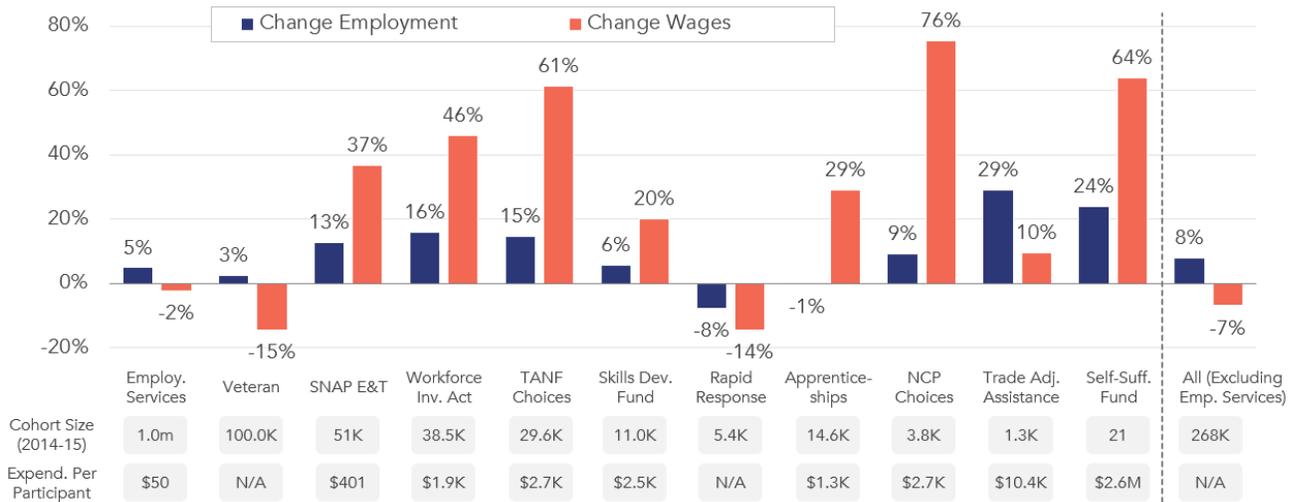
**Education and workforce development funds**



*Left: 94% of Texas’ workforce funding comes from federal sources, with approximately two-thirds of that funding going toward Workforce Innovation and Opportunity Act (WIOA) programs.*

Outcomes data for these programs is difficult to find, and what data is publicly available lags by several years and shows mixed results in terms of improved employment and wage outcomes for participants. Furthermore, assessing the success of a program based only on next-year change in wage and employment overlooks the nuance that different programs will have different types and timing of realized impact for participants. For example, upskilling a minimum-wage worker to qualify for a \$15 per hour role should see significant improvements in wages and employment quickly, whereas someone already in a highly technical role upskilling for a promotion or role change may not have a change in employment and may not see a wage increase for a few years.

Employment and Earnings Outcomes for Participants of TWC Workforce Development Programs, 2014-15 Exiting Cohort (Pre- and Post-Program Employment and Earnings Status)



Above: TWC workforce development' programs outcomes for the 2014–15 cohorts show mostly positive wage changes by program, but the total column on the far right shows that aggregate wage changes for the cohort were negative. The program with the highest change in employment also had the highest cost per participant, at more than \$10K per person.<sup>36</sup>

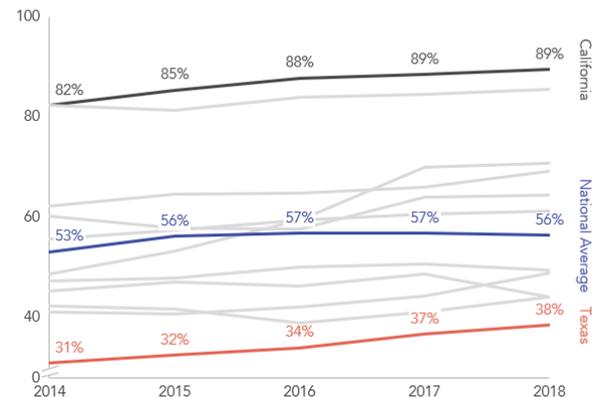
For career and technical education trainings federally funded by Perkins, Texas consistently ranks lowest in both the state target and actual receipt of industry-recognized credentials compared to peer states.<sup>37</sup>

Target and Actual rate of CTE students receiving industry-recognized credentials by state, 2018

State	Target	Actual
California	88.0%	89.5%
Pennsylvania	75.0%	85.6%
North Carolina	56.0%	70.7%
Illinois	62.2%	69.2%
Colorado	59.0%	64.3%
Georgia	48.0%	61.3%
Florida	49.5%	49.4%
Ohio	42.0%	48.8%
Virginia	41.8%	44.0%
New York	50.8%	43.9%
<b>Texas</b>	<b>35.0%</b>	<b>38.4%</b>
National Average		56.3%

Above: Texas sets the lowest CTE targets among peer states, while other states set higher targets and surpass them by a high margin.

Rate of CTE students receiving industry-recognized credentials by state, 2014-18



Above: Texas has lowest rate of CTE concentrators receiving industry-recognized credentials among peer states for the past five years.

Texas has allowed regional workforce boards to maintain responsibility for delivering the programs that use a majority of these federal workforce funds,<sup>38</sup> allowing for a higher level of regional disaggregation in the running of workforce programs than in states that manage WIOA funds at the state level. The WDA's having effective control over such a large portion of the total state workforce development budget increases regional disaggregation, as the current structure does not hold different regions accountable to one another or to clearly defined state goals in their individual spending.

***Texas has not historically measured longitudinal outcomes, like relevant job retention and earnings over time, and the performance targets are set much lower than those of peer states.***

Texas has primarily published only the program outcomes that are mandated for federally funded workforce programs. For example, Texas is mandated to measure employment rate after exit for WIOA programs, but longitudinal data, if measured, is not published, so a person can't check whether program participants are still employed five or 10 years after the program, whether participants are in relevant jobs, or how participant earnings have changed over time.<sup>39</sup> It is also difficult to find or navigate outcomes data for Texas' WIOA programs—to do so requires reading an all-text PDF report on TWC's website for each performance year for WIOA results.<sup>40</sup> Other states, like Florida, have easily accessible WIOA performance reports with clear graphics and charts on the state's main jobs website.<sup>41</sup>

## What Others Are Doing

***Other states have structures and funding set up to better adjust to quickly changing system needs and to adapt based on program effectiveness.***

**Ohio:** The Ohio Association of Community Colleges redesigned programs of study to be outcome based. The state passed a law mandating that colleges formulate strategies around improving student outcomes, which led to the formation of the state's guided degree pathways.<sup>42</sup> These pathways provide students with a map of programs and employment/wage opportunities available to them upon graduation.

**Alabama:** The state set a goal to add 500,000 highly skilled workers to the workforce and to surpass the national labor force participation rate of 63.1% by 2025. To provide flexibility in leveraging WIOA and Perkins CTE funds to support whichever workforce development and education programs are proving successful, Alabama passed a memorandum of understanding between its departments of education and commerce and community colleges to braid funding sources across eligible state and local programs.<sup>43</sup>

## Promising Work in Texas

***Examples in Texas of outcomes-based decision-making for program funding and metrics measurement and the addition of new forms of skills trainings in response to changing market needs.***

**Tri-Agency:** The Tri-Agency is working to achieve the education and workforce goals of 60x30TX, which has set a broader, more longitudinal set of statewide outcomes target metrics than previously existed. 60x30's goals explicitly address providing students with marketable skills and aim to bolster pathways for alternative degree attainment to reduce student debt.<sup>44</sup>

**TSTC outcomes-based funding:** Texas State Technical College (TSTC) implemented a returned-value formula in 2013, receiving money from the state as a percentage of graduate earnings above minimum wage. Using data gathered by the Texas Workforce Commission, the TSTC Value-Add Funding Formula measures student earnings for five years after they enter the workforce. Salary earnings above minimum wage are considered the "value added" by TSTC's training. TSTC is then paid a discounted percentage of the direct and indirect economic benefit that these value-added wages provide to the state's economy. This approach to determining funding based on student earnings over multiple years ensures that successfully placing students in economically viable jobs remains the focus of the college's programming.<sup>45</sup>

**University of Texas and Texas Tech coding bootcamps:** UT Austin launched the first university-backed coding boot camp in the state in response to the rising demand for web development skills across industries. UT offers the program full time (12 weeks) and part time (24 weeks) to accommodate both students and those with full-time jobs and regularly adjusts its curriculum based on market demand.<sup>46</sup> The Texas Tech Coding Academy offers a free two-week Introduction to Coding course, as well as part-time evening courses, like its 36-week cybersecurity training program, to accommodate employees looking to upskill.<sup>47</sup>

#### **Key Problem 4. While employers are a key beneficiary, they are underutilized in state strategy and solution formation.**

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##### **Key Findings**

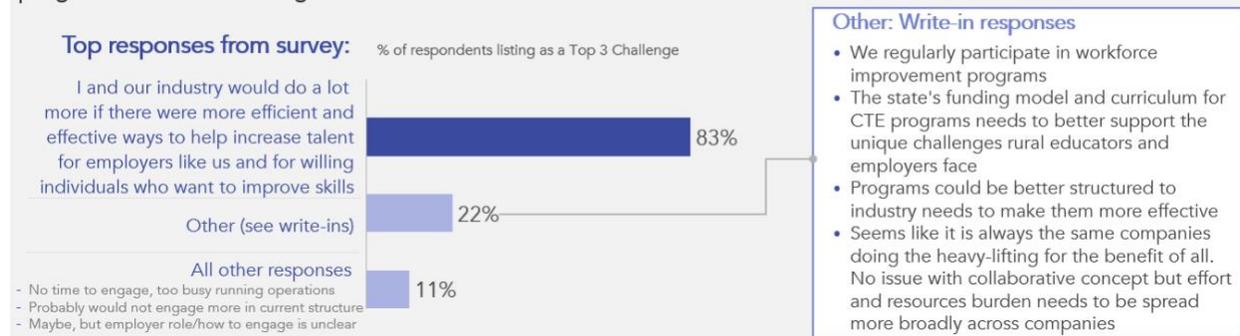
***Despite being the primary beneficiary of the state's workforce pipeline, employers are not consistently involved in statewide or regional strategy planning, goal setting, curriculum and pathway development, or performance evaluation of workforce development efforts.***

In Texas, employers are most directly involved in talent development within their own company or industry. When publicly involved, they most often work directly with local educational institutions or WDA programs. Other than service on local workforce boards and community and technical college advisory boards, few employers have an opportunity to directly affect strategic goals and budgets, recommend educational curriculum enhancements, or evaluate the effectiveness of workforce development programs in a cohesive statewide and regional approach. Even community college CTE advisory councils meet only twice a year and there is no process in place to measure the effectiveness of these meetings. As an advisory council to the governor and the Texas Legislature, the Texas Workforce Investment Council periodically surveys employers to ascertain their views on a range of career and technical education and workforce issues. Some employers are also consulted by TWC or state agencies to meet federal funding requirements, but none of these are ongoing, measured forms of involving employers in state workforce development.<sup>48</sup>

Some employers have taken the initiative to coordinate with local schools and workforce boards and established programs at high schools, community colleges, and universities to help develop talent pipelines. While these programs provide valuable opportunities to students who otherwise might not have direct employer experience, Texas cannot rely on proactive local involvement from employers as the primary method for organizing work-based learning and internship opportunities for its students and workforce. The state does not currently provide employers with guidance on how to structure and scale their own upskill and reskill programs, and employers indicate that such guidance would be useful.

*Below: 83% of Texas employers surveyed for the Texas 2036 Employer Roundtable indicated an interest in participating more in workforce development if there were more-efficient ways to do so.<sup>49</sup>*

**Survey Question:** Could you and your company/ organization participate more in workforce improvement programs if these were organized better?



*Below: Employers also suggested specific ways in which the Texas government and different education structures could make it easier to engage employers, including financial and policy assistance and a reimagining of degree plans and teaching methods to better prepare students for jobs.<sup>50</sup>*

**Survey Question:** What would you like to see each player in workforce development do differently?

**Selected responses from survey:**

Texas state government	<ul style="list-style-type: none"> <li>• Make it easier for employers to have high school interns (e.g., adjust liability insurance and labor laws)</li> <li>• Enact policy to support increasing broadband access in rural areas</li> <li>• Use policy to move education towards developing critical thinking skills versus "teaching to the test"</li> <li>• Promote Career &amp; Technical Education more – emphasize career opportunities, affordability, etc.</li> <li>• Provide more direction on workforce development priorities – what should K-12, employers, etc. be doing</li> <li>• Provide support for K-12 and colleges/universities to more effectively engage with employers</li> </ul>
Financial incentives	<ul style="list-style-type: none"> <li>• Treat employer funded training costs similarly to R&amp;D tax credits</li> <li>• Financial incentives should be tied to equipping students – not tied to school/education bureaucracy</li> <li>• Provide greater incentives to employers to upskill their workforce and offer apprenticeships</li> <li>• Fund online learning infrastructure using curriculum developed by industry professionals</li> <li>• Offer tax incentives, grants, financial aid for internship/apprenticeships</li> </ul>
Community colleges and universities	<ul style="list-style-type: none"> <li>• Expand TSTC model of rewarding/compensating the college based upon the long-term success of students</li> <li>• Stabilize tuition rates – they are far outpacing the rise in earning potential of many degree programs</li> <li>• Reimagine degree plans, how classes are taught, offerings to students, etc. to prepare students for jobs now</li> <li>• Establish ongoing training/content reviews with industry tech trainers/recruiters to keep curriculum relevant</li> <li>• Offer dual enrollment to help high school students earn associate's degrees as part of apprenticeship program</li> </ul>

## What Others Are Doing

***Talent pipeline management has enabled other states to involve employers more systematically in the development of workforce development strategies and solutions.***

**Kentucky:** In Kentucky a single organizing entity, the Kentucky Chamber of Commerce, coordinates across the state and four talent regions help regions establish employer collaboratives by industry sector. Employer collaboratives engage in demand planning, analyzing talent flow and gaps, and engaging government, education providers, and other stakeholders in their region to grow talent for their industry. Kentucky has stood up more than 20 industry collaboratives, engaged over 200 employers, and conducted demand planning for 100-plus critical jobs defined by the collaboratives in partnership with the Chamber of Commerce.<sup>51</sup>

## Promising Work in Texas

*Several regions in Texas are further ahead in bringing employers to the table, serving as strong examples of a model that can be expanded statewide.*

**Corpus Christi:** Corpus Christi was selected in 2016 as a National League of Cities participant in a two-year project to build equitable pathways to postsecondary and workforce success.<sup>52</sup> In 2018, in part due to this NLC work, Corpus Christi was recognized by the Lumina Foundation as a Talent Hub for the health of its partnerships, alignment with state and local policy and resources, retention of individuals in the education system, sustainability of programs, and commitment to equity.<sup>53</sup> The city is working toward the goal of 60% of its population holding a credential or degree by 2030, an effort led by the United Corpus Christi Chamber of Commerce, whose membership includes key education, workforce development, and employer voices to set and execute city strategies.

**UpSkill Houston:** UpSkill Houston, an initiative of the Greater Houston Partnership, has mobilized more than 200 employers, educators, public officials, and stakeholders in the Houston area to help strengthen and develop new pipelines of skilled talent to fill employer needs. Using the US Chamber of Commerce's Talent Pipeline Management approach as a framework, UpSkill Houston has established industry sector councils in petrochemical, oil and gas, advanced manufacturing, health care, construction, port and maritime, and utilities. The petrochemical sector has already seen a 32% increase in enrollment in petrochemical courses at community colleges and a 42% increase in completion rates for degrees and technical training programs since the inception of the UpSkill Houston sector council.<sup>54</sup>

## Rural Emphasis

**Structural workforce challenges are magnified for rural communities, where resources and talent pools are scarcer and the distance between communities makes it more difficult to build programs to scale.**

The rural share of living-wage jobs has declined and is projected to continue to decline. Rural employment in the country is growing at 0.5% compared to 1.8% growth in urban areas.<sup>55</sup> Structural challenges are magnified for rural communities, where resources and talent pools are scarcer and the distance between communities makes it more difficult to build educational and workforce development programs at scale. Community college services in Texas are not uniform, and in the absence of a statewide system for funding equitable services in all areas, rural community colleges often face a greater financial burden in part due to a shrinking local funding base.

This results in higher tax rates for rural communities—rural West Texas community colleges' tax rates for local areas are more than double those for urban community college areas like Austin and Dallas.<sup>56</sup> All of these factors, in addition to unique rural challenges like broadband deserts,<sup>57</sup> call for additional resources and intentional solutions to ensure rural Texans are included in the journey to a more prosperous Texas.

We have seen promising work across the country and in Texas to help solve the rural workforce development and education challenges. Many rural states have used arts-based economic development to foster hundreds of thousands of new rural jobs.<sup>58</sup> States have also developed rural-specific strategies in response to the COVID-19 crisis: Wisconsin's Economic Development Corporation partnered with the governor's office, local workforce boards and chambers of commerce, and social services groups to create a small-business grant targeted at rural businesses; Pennsylvania created a dashboard measuring the economic impacts of reopening businesses in rural communities; and Tennessee announced nearly \$20 million in funding to expand broadband accessibility.<sup>59</sup>

Some of Texas' rural communities are faring better than others in the country—Texas is home to nine of the country's 15 fastest-growing nonmetro counties, the most in any one state.<sup>60</sup> There are also many rural organizations driving results in their communities. RGV Focus, in collaboration with Educate Texas, is working with local, state, and national partners to improve education and workforce outcomes for residents of the Rio Grande Valley. RGV Focus has already achieved measured improvements across college readiness, timely transitions to higher education, improved achievement of degrees and credentials, and gainful employment upon attainment of degrees.<sup>61</sup> In Deep East Texas, the Temple Foundation helped five independent school districts band together and share resources under a memorandum of understanding to increase higher education and employment opportunities across the region, thus creating more opportunities for local students.<sup>62</sup>

### Equity Emphasis

**Growth in Texas has been experienced unevenly, with significant gaps and racial inequities in educational achievement and living-wage attainment continuing to persist.**

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Historically, attainment of living wages has had wide equity gaps, with current household gaps of 1.5x wage attainment for white Texas households versus Black Texas households and 2x versus Hispanic Texas households.<sup>63</sup> There have been additional challenges for all Texans in accessing and navigating pathways, especially those who are economically disadvantaged, have family and/or work responsibilities, and who are English-language learners.<sup>64</sup>

We have seen promising work across the country by governments and business communities to close equity gaps and create more-equal opportunities. The Business Roundtable has made a commitment to improve equity and diversity in employment, with more than 80 BRT companies agreeing to participate in the new initiative to address inequities in recruitment and in advancement and to work toward eliminating unintentional bias in the workplace.<sup>65</sup> Texas has made notable progress in recent years on achieving more-equitable attainment in educational outcomes,<sup>66</sup> and many organizations are taking an active role in advancing this work. The Commit Partnership and Dallas Regional Chamber recently announced Dallas Thrives, an initiative to double the number of young adults earning a living wage, a goal it aims to achieve with racial equity by closing the racial and socioeconomic achievement gaps in living-wage attainment.<sup>67</sup>

## Solutions

Recommendations across **6 Key Drivers** address the challenges in the Texas education and workforce systems and aim to build a Texas stronger in educational and living-wage attainment and talent development. Each Key Driver is supported by several initiatives.

### 6 KEY DRIVERS

1. **ORGANIZE FOR SUCCESS:** Align state structures and governance across education, workforce, and economic development
2. **STRENGTHEN STRATEGIES:** Strengthen and align state and regional workforce development strategies, data, priorities, and targets
3. **MOBILIZE RESOURCES TO ACTION:** Leverage funding to incentivize action toward state targets (for example, living-wage attainment and equitable outcomes)
4. **GROW & INNOVATE PATHWAYS:** Launch new programs to build a representative, diverse talent supply to meet demand and shape the future workforce
5. **INVEST IN TECHNOLOGY & INFORMATION:** Grow latest technology and tools that can inform and empower job seekers and support employers in finding and building Texas talent
6. **FOSTER EMPLOYER ENGAGEMENT:** Broaden the way that employers engage and recruit talent

**1. ORGANIZE FOR SUCCESS: Align state structures and governance across education, workforce, and economic development** to improve coordination, accountability, transparency, and efficiency in the execution of the state education and workforce strategy.

- **Aligned agencies:** Strengthen and formalize state agency governance, oversight, and strategic leadership to drive higher levels of coordination, shared accountability, and synergy across state education, workforce, and economic development agencies
- **Aligned talent development:** Establish a statewide governance model, accountable entity, and defined regional structure to serve as an organizing model for creating workforce development strategies (as described in Key Driver 2)
- **Aligned education and training providers:** Promote consistent pathways, metrics, and incentives across education and workforce development programs; and improve transferability of data, credits, and credentials to improve efficiency of student outcomes and foster better alignment across structures and entities

**2. STRENGTHEN STRATEGIES: Strengthen and align state and regional workforce development strategies, data, priorities, and targets**, with a focus on growing representative, diverse talent aligned to workforce needs, and growing jobs that provide a living wage.

- **State strategy and effectiveness metrics:** Align on a state strategy and target metrics to measure effectiveness of state and regional education and workforce programs at growing skills aligned to workforce needs and living-wage attainment
- **State view on approach to prioritize jobs and build strategies:** Establish a state perspective on attractive future jobs based on state and regional needs/outlook and living-wage standards, and use this perspective to create pipeline strategies to grow talent and attractive jobs and bring new employers to Texas

- **State framework to align regional strategies:** Develop a state decision-making framework and template to help maintain consistency across regional strategies for talent pipeline management and maintain alignment to the state strategy

**3. MOBILIZE RESOURCES TO ACTION: Leverage funding to incentivize action toward state targets (for example, living-wage attainment and equitable outcomes);** design new state funding mechanisms better aligned to employment outcomes and more responsive to changing market and employer needs.

- **Formulaic outcomes-based funding:** Fund education and workforce programs, including nondegree programs, based on attainment of state targets metrics for a large enough percentage of total funding to influence behavior
- **Innovation funding:** Create additional state funding source for innovative programming based on expected outcomes, available to state and non-state actors by application
- **Flexible funding:** Allow regular adjustment of formulaic outcomes-based and innovation funding to react to successful practices and changing regional needs
- **Braided funding:** Lift restrictions preventing the pooling of funds from multiple sources that go toward similar programs/address similar needs
- **Sustainable funding:** Define and secure long-term sources of funding to support ongoing education and workforce development programming

**4. GROW & INNOVATE PATHWAYS: Launch new programs to build a representative, diverse talent supply to meet demand and shape the future workforce;** fund and scale proven and innovative programs to build talent; and leverage talent as an economic development tool to bring living-wage jobs and industries to the state

- **Faster and cheaper pathways to good jobs:** Diversify program mix by offering more industry-approved, nondegree credentials options aligned to living-wage job pathways
- **Financial support to increase attainment:** Provide financial support for low-income individuals (for example, last-dollar scholarships), individuals with incomplete degrees, and adults who want to earn additional credentials
- **Unemployed/reentry upskill/reskill:** Increase state funding for upskill and reskill programs to get unemployed and reentering individuals onto priority pathways
- **Certificate-first approach:** Establish certificates or stackable credentials tied to discrete education and workforce courses/programs to ensure that completed coursework is reflected in certifications, even without a completed degree
- **Portable learner records:** Create a cloud-based state storage system for student records to enable progress measurement, personal planning, and easy transfers between schools
- **Expand transfer options for degrees on in-demand pathways:** Create an agreement for Texas higher ed institutions to accept transfer credits and degrees and award associate's degrees (reverse transfer) for students working on an in-demand bachelor's degree

**5. INVEST IN TECHNOLOGY & INFORMATION: Grow latest technology and tools that can inform and empower job seekers and support employers in finding and building Texas talent**

- **Longitudinal data repository:** Create a data repository connecting longitudinal education and workforce data to measure outcomes and impact of programming and to capture data for all types of employment (including entrepreneurs and gig workers)
- **Common skills language:** Establish statewide database of degrees, credentials, and skills requirements for Texas jobs to inform career pathways; developed with regular input from employers, educational institutions, and skills providers

- **Personalized career exploration:** Connect students and job seekers with online career exploration resources, customizable by skills, interests, and industry and tailored to an individual’s starting point via a personalized career assessment; info on additional credentials needed to change jobs in a pathway
- **Two-way jobs engine:** Develop a two-way jobs engine using AI to match job seekers to relevant open positions and employers to skilled candidates based on a common skills language

**6. FOSTER EMPLOYER ENGAGEMENT: Broaden the way that employers engage and recruit talent** by incentivizing them to take a more active role in local talent development and by recognizing employers meeting state-best practices for engagement in local development and hiring

- **Active role for employers in talent development:** Employers have a formal role in planning and implementation of state and regional talent development goals, programs, performance evaluation, budgets, etc., with ongoing dedicated support from the state
- **Establish employer engagement standards to guide involvement:** Establish standards and provide guidance for employers to engage more deeply in the local talent market (developing and hiring local talent, skills-based hiring, promoting and upskilling talent, providing off-ramps and flexibility, etc.)
- **Recognize and incentivize engagement:** Implement a recognition and rewards system to encourage employers to meet criteria and improve local engagement

### Near-term moves

To get Texans back to work as quickly as possible in the COVID-19 recovery and to establish the foundation for long-term progress on the 6 Key Drivers, there are several near-term actions to be taken.

1. **Adopt a common set of state workforce goals** to align state and regional strategies around.
2. **Mobilize for top 50 jobs of the future for Texas** based on attractiveness metrics (living wage, upward mobility, relevance in future job landscape, etc.), balancing for current industry footprint in the state and promising jobs to grow. Identify the top 50, develop the tools and pathways to inform Texans about these jobs and help them get the necessary skills and credentials, and provide funding to support Texans in attaining and succeeding in these jobs.
3. **Launch new talent development models in five pilot regions**, using state, regional, and, if possible, US Chamber of Commerce funding to replicate UpSkill Houston’s Talent Pipeline Management approach in other regions of Texas, with a strong focus on building ongoing employers engagement and participation in education conversations and talent development efforts.
4. **Launch formal study on future funding** to assess viable options for aligning state education and workforce development funding options more closely to state workforce goals, and to assess likelihood of receiving new federal funding, including type, amount, and estimated timing.
5. **Strengthen current Tri-Agency collaboration** with a focus on aligning the agencies’ work around achieving the adopted set of state workforce goals, including support for the top 50 jobs and regional talent development pilot efforts; fund dedicated Tri-Agency resources to support this work.
6. **Support Tri-Agency data modernization and longitudinal data linking efforts** with a single point of accountability for assembling all Tri-Agency and regional education and workforce data into a comprehensive database with a publicly facing user-friendly interface to guide educators on how best to prepare students for the workforce, guide policy makers on creation of effective legislation, and provide easy-to-use tools to help Texans find and prepare for attractive jobs; fund dedicated Tri-Agency resources to support this work.

## Call to action

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Workforce and skill needs are changing quickly, and it is difficult for Texas' current systems, structures, and pathways to adapt quickly to these changes. COVID-19 has magnified the challenges faced by Texans and put millions out of work. Although it is too soon to tell the full impact of COVID-19, a bifurcated recovery that leaves those with lower education hardest hit is already underway. The need is more urgent now than ever for all participants in the Texas workforce and education system to act quickly to help get Texans back to work now and help set up all Texans to get and keep living-wage jobs in the future.

- **Texas state government** (including Tri-Agency): Lay the groundwork for the suggested near-term actions above with 2021 legislative action, governor support, and resource reallocation as appropriate. Hire dedicated full-time employees to work across the Tri-Agency to facilitate collaboration and expedite data and data tool improvements. Provide guidance for regions on how to create and execute strategies aligned to state goals and metrics, including guidelines on processes, tools, data sharing, and outcomes measurement/metrics to use. Streamline touchpoints with employers, advising them on how to engage in regional strategy formation and execution, and invite larger Texas employers to be active in state education and workforce development strategy formation.
- **Texas regional ecosystems:** Create and execute a regional strategy aligned to state strategy and metrics, with buy-in and active participation from regional stakeholders (local workforce boards, independent school districts, education/training providers, employers, nonprofits). Use state-established processes, tools, data sharing, and outcomes measurement/metrics across all regions.
- **Education providers** (K-12, public and private universities, community and technical colleges, state and independent training providers): Invite local workforce boards and prominent local employers to participate in designing curriculum to prepare students for the workforce. Reevaluate current offerings, test effectiveness with employers and program graduates, and voluntarily measure and report on program achievements against the state's goal metrics and other relevant outcomes measurements for participants.
- **Nonprofits and philanthropies:** Continue filling in gaps for students, workers, and families, especially those unlikely to be covered by the state or employers, like wraparound support services. Work with local government and employers to develop better support systems for employees. Connect education providers and employers to encourage ongoing dialogue, and promote use of common skills language, pathways, and platforms for sharing career information and opportunities. Conduct research and advocate for needed policy changes at the local, state, and national levels. Provide funding support (for example, funding Texas pilots and matching state funding) for education and workforce development programs and employer trainings with measured positive living-wage attainment outcomes for participants.
- **Employers:** Take an active role in regional strategy planning and execution, including working directly with workforce boards and local educational institutions. Commit to keeping all local employers accountable for helping develop regional, and set an example by piloting programs for local student and employee upskilling and reskilling. For employers with a statewide footprint, seek out an ongoing seat at the table for state workforce development conversations.
- **Students, job seekers, and employees:** Take an active role in your skills development. Seek out information online about what skills could help you secure a living-wage job or advance in your chosen field. Request the government to provide better information when you can't find the information you need to make informed decisions. Ask your school, employer, or local workforce board to help you obtain the skills you need to advance and succeed in your career.

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